Administration Report

Punjab

1919-20, 1920-21, 1921-22

& 1923-24

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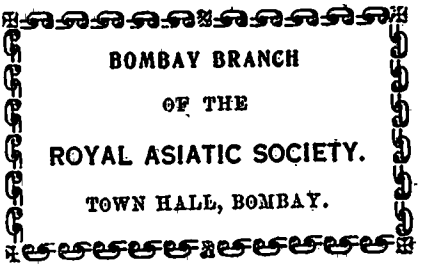

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PUNJAB ADMINISTRATION REPORT,

1919-20.

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Report on the Administration of the Punjab and its Dependencies for 1919-20.

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Report on the Administration of the Punjab and its Dependencies for 1919-20.

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PART I.

GENERAL SUMMARY.

(The " year " throughout this report is not invariably the financial year ending 31st March 1920. At the heading of each chapter, with the exception of Chapter I, a reference is given to the departmental reports which contain details of the subject dealt with. The " year " of the present report is for each such subject the year mentioned in the title of the departmental report so referred to. In general, it may be said that the " year " in Chapters I, IV, V, VII, VIII, and IX means the financial year ending 31st March 1920, in Chapter II it is the revenue year ending 30th September 1919, and in Chapters III and VI it is the calendar year ending 31st December 1919.

The Administration Report for 1911-12 was a decennial report, and as such contained many sections of permanent interest to which reference may be necessary in order to understand the working of the Administration ; under the orders of the Government of India these sections are not repeated each year, but a reference is given to them in their place in the several chapters of part II of this report.

Except where otherwise stated, the Punjab in this report refers to the Punjab as at present constituted.)

Lieutenant-Governor.

SIR M. F. O'DWYER, G.C.I.E., K.C.S.I.,—until the 26th May 1919.

SIR E. D. MACLAGAN, K.C.I.E., C.S.I.,—from the 26th May 1919.

Security.

1. Although the war had ended 4½ months before, the year under report was ushered in with ominous signs. A reaction from the strain of the war, in which the Punjab had played so conspicuous a part, was inevitable in the Province, as elsewhere. The rural areas had sent a very

large proportion of their best elements to other lands to fight for the Empire: of those who remained behind the Muhammadans began to be concerned about the probable fate of Turkey and the holy places of Islam. The spring harvest was unsatisfactory when a bumper crop was sorely needed, fodder was scarce and influenza had wrought fearful havoc. The commercial classes were exercised by the closer attention that was being devoted to income-tax assessments; and the townspeople, generally, were disappointed because the cessation of hostilities had brought no fall, but rather a further advance, in prices. Moreover, the politically-minded among them were speculating rather pessimistically on their prospects under the Reforms scheme and at the same time they keenly resented the passage by an official majority of the "Rowlatt" Act in the Imperial Legislative Council. Among the more unsophisticated residents of the cities and towns the grossest misrepresentation of the objects and provisions of this legislation gained credence; while the more intellectual party were invited to take the vow of "civil disobedience to the laws." This novel stratagem, indeed, gained no support in the Province: but the time-honoured Eastern device of displaying popular resentment by a day's complete cessation from business made a strong appeal to the city population, and a successful *hartal*, which took place in Amritsar on the 30th March 1919, was followed up with a similar demonstration in that city, in Lahore and elsewhere on the 6th April, leaving behind it an atmosphere surcharged with excitement and restlessness.

2. The first collision between authority and the forces of disorder occurred at Amritsar on the 10th April. Under the orders of the Local Government (acting under the Defence of India Act) two of the leading local politicians were deported and interned at Dharamsala. On the news becoming known an angry mob collected and, after suffering a few casualties from the fire of protecting military pickets in a frustrated attempt to rush the civil station, proceeded to commit a series of atrocious outrages in the city. The National Bank was looted and gutted and the Manager and Assistant Manager cruelly murdered; the Alliance Bank was attacked and the Manager assassinated. The Chartered Bank was saved, as well as its British officials, by the opportune arrival of armed Police. The Town Hall, Telegraph Office and Railways Goods Yard, Post Offices and Christian

buildings were seriously damaged, and a British railway guard and a Military Works sergeant were beaten to death. An attempt was also made on the life of a lady missionary who was left for dead in the street. By nightfall telephone and telegraph wires had been cut: endeavours had been made to destroy the main railway line and a suburban station had been burnt, while other similar outrages had been attempted or perpetrated.

3. The mob violence which began by being anti-Government had soon developed into anti-European hostility. Late in the night troops arrived, and the Commissioner requested the senior military officer to take such steps to restore order as the military situation required. The next two days (in the course of which Brigadier-General Dyer of the Jullundur Brigade had arrived) were spent in re-establishing control of the city and its environs. On the evening of the 13th April General Dyer marched a small body of troops to the Jallianwala Bagh, where a mass meeting was being held in disregard of an order already proclaimed by him forbidding any procession or assemblage of more than four persons. Withoutfurther warning fire was opened on the crowd at close quarters, resulting in the death of 379 persons and the wounding of many more, the numbers of which have never been accurately known.

4. In the meantime at Lahore when, on the 10th April, it became known that Mr. Gandhi had been refused permission to enter the Punjab and the Amritsar outrages had occurred dispositions of police and troops were quickly made. A city mob proceeded up the Mall towards Government House, and on refusing to stop was fired on by the police and suffered a few casualties. Later on, it became necessary again to fire on a crowd assembled by one of the City gates.

Various manifestations of sedition, accompanied by some violence, in and around the City marked the passage of the next two or three days; and on the 14th April three leading politicians associated with the "hartal" were deported. The next day martial law was proclaimed in Lahore and Amritsar, being extended subsequently to Gujranwala, Gujrat and Lyallpur Districts.

5. Other instances of outrages may be more briefly recounted. At Kasur, two warrant officers were murdered by a mob on alighting from a train at the Railway

Station (which was sacked), and other Europeans with difficulty rescued from death at the hands of the crowd. Post offices were looted or burned, and finally the gathering was dispersed by the fire of the police. At Gujranwala violence was not indulged in until the 14th April, when attacks were made on the telegraph and telephone wires and the mob was fired on by the police while attempting to destroy the main line. Subsequently, the Post office, tahsil, English church, dâk bungalow and district court were burned: and order was not restored until 3 aeroplanes arrived and employed bombs and machine-guns to scatter the crowds. The disorder which showed itself in the town of Gujranwala spread extensively in the Gujranwala District, outbreaks occurring in 14 different places and including attacks on Europeans and on the railway and its communications. In Gujrat a mob which had made an attack on the Mission school and headquarters railway station had to be dispersed by fire, while one or two comparatively minor outrages, such as the derailment of a train and cutting of telegraph wires, were reported. In the Lyallpur District also damage was done to Government property and railway communications. In other districts there were sporadic outrages and incidents, many of them in cantonments or at important points on the main lines of railways. In some cases the railway staff which had grievances of its own took a hand in fomenting disturbances or organizing strikes. From the 17th April the most serious manifestations practically abated, although wire-cutting took place as late as the 2nd May. The declaration of war by Afghanistan six days later imported a new element of uncertainty into an improving situation. By the 11th June martial law had been withdrawn from all areas except the railways: and this exception was abolished on the 25th August.

6. For the trial of offenders by Commissions three martial law ordinances were promulgated. In addition, minor offences under martial law were disposed of by officers (mostly military) exercising summary powers and known as Area officers, or by civil officers. On the termination of martial law tribunals were appointed under the Defence of India Act to try the more serious remaining cases. A large number of persons were sentenced by the courts to various terms of imprisonment, but during the summer the Local Government took occasion to modify a considerable proportion of the sentences, and towards the end of the year

two High Court Judges were appointed to revise all sentences of summary courts and many of the sentences passed by the Commissioners.

Finally, on the 23rd December, His Majesty the King-Emperor issued His gracious proclamation of clemency which was extended to all offenders except those condemned for the most heinous acts of violence. By the end of the year under report out of nearly 1,800 persons convicted by the courts only 86 were left to serve their sentences, apart from the 23 executed for murder.

7. The methods adopted for repressing the disorders were subjected to a good deal of public criticism, and a Disorders Inquiry Committee was appointed in October 1919 by the Government of India under the presidency of Lord Hunter to enquire into the circumstances of the rising and its repression in the Punjab and other Provinces. The Committee in March 1920 presented majority and minority reports by the British and Indian members, respectively. The conclusions arrived at will be found in the published report.

The close of the year was further marked by the meeting of the National Congress and of the Muslim League at Amritsar, during the last week of December 1919. The Punjab disturbances formed the chief topic of discussion at the Congress.

8. The outbreak of the Afghan war, to which allusion has been made above, was bound to lead to excitement on the Baluch frontier. Fortunately, no serious developments took place, the precaution of moving police reserves and small detachments of troops to threatened points proving sufficient to avert anything more serious than a few raids in which the marauders on one occasion at least suffered severely.

9. Apart from offences associated with the April disturbances, the police statistics show that in the year under review there was a substantial increase in the number of cognisable cases reported, amounting to 8 per cent. over the previous year's figures. Many adverse factors contributed to this result. Some of these have been referred to above: another was the influx of masses of demobilised men—and those the bolder spirits—into the province at a time of excitement. There were more than thrice as many dacoities as in the previous year, while burglaries and thefts were also much more numerous.

10. It is interesting to note that at the close of the year, as a result of the amnesty declared by Royal Proclamation in December, all orders of internments and restriction under the two special war measures known as the Ingress into India Ordinance and Defence of India Act had been cancelled, and the Province was able, on the 1st January 1920, to show a clean slate in this respect.

11. The existing settlements for the reformation of the criminal tribes have been further developed. But experience has shown that caution must be exercised in dealing with large numbers of tribesmen who are called on to abandon completely a nomadic for a settled and orderly life, or otherwise their health is likely to suffer by the sudden change of habit. Nearly two-thirds of these settlements are in charge of philanthropic societies, some of whom are reported as taking a keen interest in the welfare and progress of their charges. A very important step has been traced in revising the classification of the registered members of criminal tribes which has been undertaken in the hope that it may be feasible to exempt from all restrictions a large proportion of those now subject to various degrees of police surveillance.

Condition of the people:

12. The monsoon rainfall of 1919 was intense while it lasted, but unfortunately it ceased earlier than usual with the result that unirrigated autumn crops suffered and the sowings of spring crops were restricted. But river and canal supplies were abundant and the sown and matured areas were much more extensive than last year. The wheat harvest of 1920 although slightly below the "normal" was a fine one and the estimated yield was put at nearly 3,400,000 tons. All the other staples were estimated to have a higher than normal outturn.

13. An embargo was maintained on the free export of grain to Europe; and this restriction combined with the generally satisfactory results of the harvests helped to drive prices down and render the situation easier at the end of the year. One unsatisfactory feature in the agricultural situation is the shrinkage in the numbers of cattle and stock of all kinds. It is true that at the recent cattle census the figures for young stock were more than three-fourths of a million in excess of those recorded at the previous census, but kine, buffaloes, sheep and, in particular, goats among

agricultural or pastoral animals are all much less numerous; while horses, donkeys and camels also show a great falling off. To exceptional mortality, restriction of grazing areas and increased exports of horned cattle and horses, &c., this disturbing situation may be attributed. Measures are being taken by the Agricultural Department to deal with the problems involved.

14. As has been the case all the world over, high prices have hit hardest those classes who depend on fixed incomes and Government service for their livelihood, but the agricultural and commercial classes have again had a prosperous twelve months and the demand for labour has been unsatisfied. It is true that the average price of agricultural land in the Province as represented in terms of land revenue assessed has temporarily fallen, but this is mainly due to sales at nominal rates of Government proprietary rights to Crown tenants. The large increase in the income-tax assessments is an index of the prosperity of the commercial classes.

Finance.

15. At the end of the year under review the provincial balance sheet still exhibited a prosperous appearance. The closing balance had risen by Rs. 29 lakhs to Rs. 260 lakhs. It should be noted that this figure included Rs. 23 lakhs of accumulated Imperial assignments made for special purposes, but the year's revenue had improved by Rs. 87 lakhs, and a mere examination of the figures would have revealed no ground for uneasiness. A cloud, however, was beginning to gather on the horizon. Rapid as the increase in receipts has been, expenditure has been growing still faster and mounted during the twelve months by Rs. 94½ lakhs. Irrigation, Forests, Land Revenue, Excise, and Stamps, in the order named, are responsible for most of the augmented receipts and illustrate the constantly expanding prosperity of the Province. On the expenditure side Public Works, Police, Land Revenue and Law and Justice bulk most prominently. The causes generally for the heavier charges were the doubling of war allowances for six months and the concession of temporary allowances for a similar period for all Government servants drawing pay not in excess of Rs. 75 per mensem, the increased cost of grain compensation allowance, and the revision of the pay of several services.

16. There is no doubt that the Province will be faced with very heavy commitments in the near future. Revision of pay of all the non-gazetted establishments has been the most urgent problem, but on all sides the demands for grants to meet the clamant needs of a developing province are insistent. The new financial settlement which will come into force with the inauguration of the Reforms will provide the Punjab with considerably increased spending power, but it is to be feared that most of this will for the present be absorbed by the charges on account of revised pay referred to above. There are, however, sources of income which can be tapped without entailing any serious burden on the prosperous classes of the Province.

Agriculture and Rural Economics.

17. The general results of the harvests in the year 1919-20 have already been referred to. The early cessation of the monsoon had a direct influence on canal irrigation, an extremely keen demand being created for final *kharif* and preliminary *rabi* waterings. As a consequence, the Punjab canals had a brilliantly successful year, the area irrigated exceeding all previous records and falling little short of 10½ million acres. The net revenue earned of Rs. 324 lakhs is equivalent to a return of nearly 14½ per cent. on the capital outlay.

18. The interest of the zamindar in the scientific side of agriculture continues to grow; and agriculturist students still preponderate in the Lyallpur Agricultural College, which has been affiliated to the Punjab University. A degree of B.Sc. is now granted to students who successfully complete a four years' course.

19. Experiment and research by the Agricultural Department is being carried on in such varied fields of investigation as the milling and baking qualities of various kinds of wheat, in nitrogen fixation in soils, in sericulture and the life histories of insect pests, and in the designing of agricultural machinery. The sales of improved implements trebled when compared with the previous year; and the demand for selected seed sold by the department has resulted in a profit of Rs. one lakh.

20. The important place held by the forests in the Province's material resources is now fully recognised; and despite the handicap of shortage of officers, considerable

progress made in exploitation has produced a surplus income nearly higher by six lakhs of rupees than has ever been known before. Other obstacles, with which the Forest Department has had to contend, are scarcity of skilled labour and transport and high working costs. It is recognised that profitable exploitation and development must rely more and more on mechanical appliances for transport, such as wire ropeways and steam tramways, and the provision of these facilities, where advantageous, is engaging the attention of the officers of the department.

Co-operation.

21. Those interested in the co-operative movement are able to look back on a year in which there was noticeable progress both in the number and quality of the societies.

Primary Agricultural Credit Societies increased by over 1,500 to 6,600, and it is clear that the highly-trained supervisory staff have won the confidence of the people, who are now ready enough to organize themselves for definite economic ends. The steadily growing proportion of inspected societies which are classified as good is a proof of the spread of an intelligent comprehension of the principles of co-operation and of the conviction that existing unsatisfactory conditions can be ameliorated by a system of organized self-help. Members of these primary societies now possess well over a crore of rupees in shares, reserve and profits, while from three districts it is reported that the capital owned exceeds the sums borrowed. Over one thousand societies are independent of the aid of Central Banks : and in more than two-thirds of these the members are stated to be entirely free from debts to money-lenders.

22. The control of the Central Banks is rapidly passing into the hands of the primary societies whose representatives take a continually larger share in the deliberations at general meetings. Additional Central Banks, Credit Unions and Supply Unions have been registered : and these secondary institutions are year by year increasing their share capital and reserve. The multiplication of transactions between the primary societies and other financing agencies is illustrated by the fact that their value has grown in four years from Rs. 25 lakhs to Rs. 87 lakhs.

23. The experience of the last twelve months seems to justify the belief that rural supply as a function of agricul-

tural societies is gaining in popularity. Cattle insurance is, also, advancing in general estimation. There are naturally many difficulties attendant on the introduction of so novel a feature as this into rural life: but the vast economic waste due to heavy cattle mortality is emphasized by the very large proportion of loans made by agricultural societies for the replacement of cattle.

24. Other novel forms of co-operation initiated were co-operative consolidation of holdings; societies to deal with the problem of excessive fragmentation; societies to suppress unnecessary litigation by organization of arbitration; societies to reclaim lands destroyed by hill torrents, and night schools. As a result of the persistent efforts to stimulate among co-operators a more lively interest in the improvement of agriculture, over 1,000 improved ploughs and agricultural implements were sold, as well as thousands of maunds of selected seed and all available fruit trees.

On the industrial side there were additions to the number of weavers' societies and the formation of three unions. The central weavers' store had a successful year, while several dyers' societies were registered.

Vital Statistics and Medical Relief.

25. The year proved to be an unusually healthy one, and with the exception of 1900 and 1912 returned the lightest death of any year during the present century. The Province was spared any recurrence of the influenza epidemic, and the only diseases that claimed an increased number of victims were cholera and small-pox. The deaths from plague were only about one-sixth of the preceding year. Infantile mortality was as usual high: and it is instructive to note as an index of the comparative stages of civilisation reached that the death rate of children less than one year old was $2\frac{1}{2}$ times the English rate. The birth rate showed some recovery, but the effects of the previous year's influenza epidemic were still apparent in the fact that this rate was well below the average of the previous five years. The Province, however, recorded a net gain of births over deaths exceeding a quarter of a million.

26. The Medical Department has again been heavily overworked owing to shortage of personnel. Contrary to expectation, large numbers of qualified doctors have been retained in military service: and their absence has severely impeded progress.

The number of new dispensaries added to the open institutions was 19, while six were closed. The new wards and operating theatres of the completed Mayo Hospital, Lahore (King Edward Memorial Scheme) were brought into use during 1919. Thanks to the healthiness of the year the number of out-patients showed a marked decline. The number of in-patients, however, increased, as did the number of surgical operations performed.

27. Arrangements have been made in the Rawalpindi District for an itinerating dispensary for women in charge of a European lady doctor. The paucity of qualified medical women continues to be a most serious obstacle to the extension of efficient medical aid to women by their own sex. It is possible that the recent constitution of a Government service for women Sub-Assistant Surgeons may induce a larger number of young women to enter for the M. P. L. diploma than hitherto, but so far the signs are not very hopeful. Classes for the training of nurse *dais* and indigenous *dais* have been carried on at several centres in the Province, wholly or partially assisted by the Victoria Memorial Scholarship Fund.

Excise.

28. The enormous rise in the revenue derived from excise which has again to be recorded can be a source of satisfaction only from a fiscal point of view. Although prices ruled higher, and the number of retail shops licensed were fewer, the consumption of country spirit increased by 19 per cent. There was no epidemic disease to account for this freer indulgence in drinking by the public: and it is a further sign of the times that the consumption of the more expensive spiced spirit is rapidly overtaking that of the cheaper plain liquor. In short, the drinking section of the public having more money to spend are spending more on alcohol, while the action taken in various directions such as enhancement of price and curtailment of facilities has not proved drastic enough to counterbalance the new influences at work.

The brewing of beer, on the other hand, which is consumed almost entirely by British troops, has fallen off, the explanation being that the modern soldier is much more abstemious than his prototype of the old army.

29. The persistent shrinkage in the consumption of opium is ascribed partly to the steady suppression of facilities beyond bare requirements and partly to a change of popular taste which appears now to seek gratification from liquor rather than narcotics. The situation, however, in regard to *charas* calls for careful watching, for although imports were artificially stimulated by the knowledge of traders that an enhancement of duty was impending, signs are not wanting that an increase of consumption may become general. The question of a further advance in the import duty is under consideration.

30. District advisory committees have continued to put forward practical suggestions which it has usually been found possible to adopt. The Standing Committee of the Legislative Council met twice during the year and, pursuant to its suggestions, tests of the materials used in country liquor, closure of liquor shops at fairs in the Ludhiana District and the extension of the system of sale in sealed bottles have been carried out.

Trade and Industry.

31. The war provided a great stimulus to the export trade of an agricultural country like the Punjab with the result that during the closing stages of hostilities there was a substantial balance of trade in favour of the Province. With the resumption of peaceful conditions it was but natural that the reverse side of the shield should become more prominent: and the renewed demand for imported goods of all kinds, of which the Province had for years been starved, left in the year under report an adverse balance of trade.

32. Several factors intervened to disturb the ordinary currents of supply and demand. In particular, trade and industry were hampered by the inability of the railways to provide sufficient rolling stock to meet the demand for coal and coke: and inter-provincial restrictions placed on the movement of food-grains, owing to the general unsatisfactory nature of the spring harvest, affected provincial statistics of imports as well as exports. Rice and sugar bulk much less than before in the figures for imports; and although the outside demand for cotton continued to be vigorous and there was again a large increase in the weight and value exported, this by no means compensated for the

severe shrinkage in the exports of wheat and gram, which was returned as less by nearly six hundred thousand tons valued at over seven million pounds sterling.

33. Imports of gold coin, although in an unappreciable quantity, made their reappearance ; but there was a huge falling off in receipts of silver coin mainly owing to the restrictions placed on issues from treasuries.

34. The statistics of trans-frontier trade with Afghanistan, Central Asia and Tibet exhibit a general decline in the volume and value of imports, and a decline in the volume but advance in the value of exports, leaving the balance of trade very much in favour of the Province. The political situation in Central and Russian Asia has naturally led to a decrease of imports and a stimulus to exports to the regions affected. The high prices fetched across the borders by animals has produced a marked effect on the transport problem, and it is stated that the enormous cost of carriage has extinguished the trade in cheap Indian drugs as no longer profitable.

35. Signs are not wanting that the Punjab is about to enter on an era of industrial activity; and the increasing importance of commerce and industry in provincial life has been recognised by the constitution of a new Department of Industries under a separate Director whose functions had hitherto been performed by the Director of Agriculture. A Government Weaving School is engaged in training students in various textile arts and operations, while a Government Dyeing School has achieved encouraging progress under an expert who has already succeeded in interesting capitalists concerned with weaving factories. The number of factories in existence has been augmented by 44, mainly owing to construction of new ginning factories in the canal colonies. But the insignificance of the factory population in the Punjab even with these additions to the previously existing 200 factories, is clearly demonstrated by the returns which give a daily average of persons employed in all industries subject to the Factory Act of less than 40,000 out of a population now estimated at over 20 millions.

36. It was unfortunate that the Inspector of Factories was absent on military duty and leave throughout almost the whole year, as district officers were unable, owing to other

pre-occupations, to supply the gap; and a great deal will have to be done in the near future in order to bring factory conditions up to a proper standard.

Local Self-Government.

37. The salient features in the year's chronicle of District Board administration are the re-constitution of all the boards and the institution of the new electoral rules. It cannot, indeed, be said that these innovations have yet exercised any powerful stimulus on the electorate, for the percentage of voters who went to the polls in a greatly increased number of elections was only about 1 in 5. Still it may fairly be anticipated that enthusiasm will wax when, as contemplated, the official element on the boards has been further curtailed and wider powers of taxation with concurrent responsibility have been conceded. Even as things are, the interest shown by members in the deliberations of their boards is steadily increasing. It is the reluctance of these members to undertake executive duties that stands as the great obstacle in the path of progress.

38. Like other bodies, the District Boards are faced with all the difficulties consequent on the rapid rise in expenditure under present-day conditions: and various devices, such as the imposition of profession and status taxes, are being resorted to with the object of producing equilibrium between income and expenditure. This would be more readily attainable in many cases if the boards could conquer their reluctance to raise revenues by direct taxation rather than by appeals to Government for grants.

39. The spheres of activity for the boards are naturally diverse. The maintenance of industrial schools, veterinary dispensaries and demonstration farms, the supply of well-bred bulls and rams for cattle and sheep breeding, experiments in sericulture and the promotion of arboriculture (with not wholly satisfactory results) are items found in the programmes apart from more humdrum business. A decided step forward in hygiene and sanitation has, it is hoped, been taken with the appointment of district health officers in certain districts with the object of improving the public health in rural areas.

40. As regards municipalities there are still complaints that elections and preparations therefor are marred in

some instances by corrupt practices : but it is gratifying to be able to record that the policy of withdrawing official control has undoubtedly succeeded in stimulating in the citizens affected a quickened interest in municipal affairs and a desire to participate in membership of the committees.

41. Apart from the elaboration of numerous important schemes of drainage and water supply which have been held in abeyance during the war, an interesting sign of progress is the thought which is being focussed on such social problems as the relief of congested areas, the adulteration of food, &c. But as in the case of district boards the municipal committees are hampered by want of funds and even with generous subventions from Government will be constrained, sooner or later, to increase their taxation if these schemes are to attain fruition. In this connection it is noteworthy that the substitution of the direct terminal tax for the cumbrous and costly octroi system is beginning to make headway in popular favour.

Education.

42. At the close of the year under review the Province could claim to possess over 9,600 public and private educational institutions attended by more than half-a-million of scholars (including sixty thousand girls). A noticeable rise in the number of agriculturists is reported. The expenditure reached nearly 1½ crores of rupees of which Government's direct share was over 64 lakhs of rupees.

43. The year's report discloses much solid progress in the schemes originated last year : but, so far, the principle of compulsory Primary Education, which has been embodied in the Primary Education Act, has not been put into operation anywhere. The Multan municipal committee has decided on this step from April 1921, while both the Lahore and Amritsar Municipal Committees are endeavouring to reorganise their system of elementary education with the idea of introducing compulsion.

44. Most of the districts are behind hand in the provision of suitable primary school buildings and any nascent enthusiasm in this direction has been chilled by the enormous expenditure with which Boards and Committees are confronted now-a-days when framing even unambitious

schemes. Government has, however, now come to the rescue by offering generous terms for building grants.

45. As regards secondary education the thirst for the knowledge of English continues unabated. Instruction in Agriculture, for which a number of qualified teachers are already available, has been begun in many schools : and in several flourishing centres manual training has been established. There has, however, been some retrogression in the number of students attending technical institutions despite good progress in the training of teachers and the provision of the necessary education. The schools for disabled soldiers and for the blind at Lahore are doing useful work ; while the record of female education shows a marked step in advance and gives promise of continued expansion in the future.

PART II.

DEPARTMENTAL CHAPTERS.

CHAPTER I.

Physical and Political Geography.

1.—Physical Features of the Country, Area, Climate, and Chief Staples.

(See pages 1—16 of the report for the year 1911-12.)

2.—Historical Summary.

(See pages 16—30 of the report for the year 1911-12.)

3.—Form of Administration.

(See pages 30—48 of the report for the year 1911-12.)

4.—Character of Land Tenures and System of Surveys and Settlements.

(See pages 48—58 of the report for the year 1911-12 and the Punjab Settlement Manual.)

5.—Civil Divisions of British Territory.

(See pages 59—62 of the report for the year 1911-12.)

6.—Details of the last Census—Tribes and Language.

(See pages 62—71 of the report for the year 1911-12.)

7.—Changes in the Administration.

1. Sir Michael O'Dwyer, G.C.I.E., K.C.S.I., held charge of the office of Lieutenant-Governor of the Punjab until the 26th May 1919, when he proceeded on combined leave preparatory to retirement, and was succeeded by Sir Edward Maclagan, K.C.I.E., C.S.I. Before assuming charge of the Lieutenant-Governorship Sir Edward Maclagan was, on return from leave on the 1st May 1919, placed on special duty at Lahore.

2. The untimely death, on 3rd January 1920, of Sir Henry Rattigan caused a vacancy in the Chief Justiceship of the High Court of Judicature, Lahore. This was temporarily filled by the Hon'ble Mr. Justice Chevis, who was relieved on the 30th April 1920 by the Hon'ble Mr. Justice Rai Bahadur Shadi Lal on his appointment as permanent Chief Justice

The year under report also saw the appointment, on the 16th June 1920, of the Hon'ble Mr. Justice Khan Bahadur Saiyid Muhammad Abdur Rauf as a permanent Judge of

the High Court; the appointment of Additional Judge, which has been extended up to the 31st March 1921, being filled by the Hon'ble Mr. Justice Wilberforce.

3. The only other important change during the year was the constitution, with effect from 1st November 1919, of the Sheikhupura District out of portions of the Gujranwala, Lyallpur, and Sialkot Districts. This necessitated the addition of one more post to the cadre of Deputy Commissioners.

8. Relations with Tributary States and Frontier Affairs.

I.—PHULKIAN STATES.

4. Mr. T. Millar, I.C.S., held charge of the Agency from 5th April 1919 to 11th October 1919, when Mr. L. M. Crump, I.C.S., resumed charge of his duties.

Owing to Mr. Crump's sudden illness Mr. W. C. Renouf, I.C.S., Political Agent, Bahawalpur Agency, was put in charge of the current duties of the Political Agent, Phulkian States, on the 10th November 1919. Mr. Crump resumed his duties on the 1st December 1919.

The post of Personal Assistant remained vacant.

PATIALA.

Area, 5,412 square miles; population, 1,407,659; approximate revenue, Rs. 117 lakhs; army and police, 5,557; Major-General Maharaja Sir Bhupendra Singh, G.C.I.E., G.B.E., Sidhu Jat; aged 29; has a male heir; salute, 19 guns (including 2 personal).

Personal.

5. His Highness the Maharaja has been in excellent health throughout the year. He spent the winter at Patiala and the summer at Chail as usual, and attended the Chiefs' Conference held at Delhi in November 1919. During the April disturbances the Maharaja toured twice in company with the General Officer Commanding along the lines of communications which were guarded by the State forces. He also acted during the Afghan campaign as special service officer on the staff of the General Officer Commanding the North-West Frontier Force.

Administration.

6. Following the precedent set in the Punjab the Chief Court was raised to the status of a High Court presided over by a Chief Justice.

The Police Department was reorganized by an officer lent by Government. Two settlements of criminal tribes have been initiated. The hydro-electric scheme for the extension and irrigation and supply of power to industries is under consideration, and a survey of the economic resources of the State has been begun.

Military. 7. As indicated above, the State rendered most valuable assistance to the Punjab Government during the disturbances of 1919, successfully undertaking the protection of railway and telegraphic communications in the State and adjoining districts. Imperial Service Troops, together with a camel and a mule corps, took part in the Afghan War.

Crops and irrigation. 8. The spring harvest was, thanks to the large proportion of irrigated area, an average one; the autumn crop was also satisfactory.

Public health. 9. The birth-rate of 29·29 *per mille* was slightly lower than last year (29·95). The death-rate shows a striking decline from 70·30 *per mille* to 19·45, owing to the absence of influenza which proved so fatal in the previous year.

JIND.

Area, 1,259 square miles; population, 271,728; approximate revenue, Rs. 24 lakhs; army and police, 1,815; Lieutenant-Colonel Maharaja Sir Ranbir Singh, G.C.I.E., K.C.S.I., Sidhu Jat; aged 41; salute, 15 guns (including 2 personal).

Personal. 10. His Highness enjoyed good health during the year under report. He resided in the State throughout the year except from the 22nd June to the 20th September 1919, when he was at Bhimtal. His Highness also, as usual, made tours in the three districts of the State.

His Excellency the Viceroy paid a private and unofficial visit to the State on the 23rd October 1919 during the course of his autumn tour.

Administration. 11. On the death of Sir Shamsher Singh His Highness reorganised his Council, appointing Dr. Bihari Lal as Chief Minister of the State.

Considerable attention was given to the improvement of Primary schools, while a course of commercial training was instituted in the Sangrur High School.

Military.

12. His Highness afforded valuable aid in the suppression of the April riots and disturbances by deputing detachments of the Imperial Service Troops and of the police to guard the railway running through the State. He also placed all his resources and his Imperial Service regiment at the disposal of Government for the Afghan War.

Crops.

13. The autumn harvest was rather above the average of the last five years with abundance of fodder; the spring crops were below normal.

NABHA.

Area, 928 square miles; population, 248,887; approximate revenue Rs. 20½ lakhs; army and police, 1,532; Maharaja Ripudaman Singh, Sidhu Jat; aged 37; has a male heir; salute, 11 guns.

Personal.

14. His Highness the Maharaja enjoyed good health on the whole. He paid a visit to Simla during the summer. A son and heir was born on the 19th September 1919.

Administration.

15. Pandit Sri Krishna Joshi was appointed to act as Chief Secretary. The harvests are reported to have been fairly satisfactory.

II.—STATES OF THE BAHAWALPUR AGENCY.

16. Mr. W. C. Renouf, I.C.S., held charge of the Agency during the year.

BAHAWALPUR.

Area, 15,000 square miles; population, 780,641; approximate revenue, Rs. 43¾ lakhs; army and police, 2,068; Nawab Sadiq Muhammad Khan, Abbasi, V., Daudputra; aged 15; salute, 17 guns.

Personal.

17. His Highness the Nawab enjoyed excellent health except for a mild attack of measles. His physique has developed satisfactorily in the last year, and his progress at College is creditable. Mr. M. S. Leigh, I.C.S., took over charge as tutor and guardian to His Highness in December 1919.

Administration.

18. Sir Rahim Bakhsh continued as President of the Council of Regency, which has again successfully carried on the administration. The State finances are flourishing, a balance of Rs. 140½ lakhs having been accumulated towards defraying the State's share in the Sutlej Canal Scheme. There is great

scope in the State for improvement in the existing canal system; but the Council have been hampered in its schemes by inability to secure the loan of expert engineers from the Local Government. Progress has been made in providing amenities at the capital. The railway communications in the State were guarded during three months of 1919 by the local police and zamindars. The Camel Transport served in the Afghan War on the Frontier.

MALER KOTLA.

Area, 167 square miles; population, 71,144; approximate revenue, Rs. 13¾ lakhs; army and police, 1,026; Lieutenant-Colonel Nawab Sir Muhammad Ahmad Ali, Khan Bahadur, K.C.S.I., Pathan; aged 39; has a male heir; salute, 11 guns.

Personal.

19. The health of His Highness the Nawab remained good throughout the year. He spent the summer at Mashobra and Simla. His Highness was promoted to the honorary rank of Lieutenant-Colonel in the Indian Army with effect from the 31st December 1919.

Military.

20. The 1st Company of the Imperial Service Troops returned in April from Mesopotamia, while the 2nd Company (which was also maintained over strength during the war) did service for five months on the Frontier in connection with the Afghan trouble.

General conditions.

21. The harvests were satisfactory. The birth-rate considerably exceeded that recorded in the previous year. Deaths fell from 2,396 to 442, the high mortality of the preceding year being due to the influenza epidemic.

FARIDKOT.

Area, 642 square miles; population, 130,294; approximate revenue Rs. 15½ lakhs; army and police, 371; Raja Har Indar Singh, Barar Bans Jat; aged 5; salute 11 guns.

Personal.

22. His Highness the Raja and his younger brother enjoyed generally good health during the year, spending the summer at Kasauli.

Administration and general conditions.

23. A permanent Council of Administration, with Rai Bahadur Lala Ganga Sahai, I.S.O., as President, was established in June 1919.

The financial condition of the State is very satisfactory, the accumulated balances at the end of the year amounting to nearly Rs. 71½ lakhs. Both harvests are reported to have been good. In the autumn great success was obtained in the cultivation of American cotton.

In the absence of any epidemics the public health was good, and there was a decline of 6,500 deaths as compared with the previous twelve months.

The Imperial Service Sappers Company was detailed for duty at Ferozepore during the April disturbances, and subsequently served for six months on the North-West Frontier in connection with the Afghan War.

III.—STATES OF THE JULLUNDUR DIVISION.

KAPURTHALA.

Area, 630 square miles; population, 268,133; approximate revenue, Rs. 37 lakhs (inclusive of Rs. 19 lakhs income from the Oudh Estate); army and police, 2,416; Lieutenant-Colonel Maharaja Sir Jagatjit Singh, Bahadur, G.C.S.I., Ahluwalia Sikh; aged 47; has a male heir; salute, 15 guns (including 2 personal); tribute Rs. 1,31,000.

Personal.

24. His Highness the Maharaja kept good health throughout the year. He returned to the State from a visit to Europe in December last, but again proceeded to Europe for seven months in March 1920.

Administration.

25. The administration of the State was, in the absence of His Highness the Maharaja in 1919, carried on by the Tikka Sahib and Khan Bahadur Sardar Abdul Hamid, O.B.E., Diwan and Chief Secretary of the State. The Tikka Sahib also this year went on a visit to Europe, and during His Highness and the Tikka Sahib's absence the administration was conducted by the Diwan with the assistance of a State Council.

The Imperial Service Troops were employed in connection with the Punjab disturbances, and were on active service in Seistan in the Afghan campaign.

Vital statistics.

26. The morbidity and mortality statistics show that the State was singularly free of plague throughout the year.

MANDI.

Area, 1,200 square miles; population, 181,110; approximate revenue, Rs. 11½ lakhs; army and police, 360; Raja Jogendra Sen, Rajput Mandal; aged 16; salute, 11 guns; tribute, Rs 1 lakh.

27. His Highness the Raja continued his studies in the Aitchison College, Lahore, and is reported to be making good progress, being now in the upper fifth form. He is also doing well in his religious studies under his Brahman instructor. The Raja was betrothed to the second daughter of Tikka Devi Singh of Delath State, Simla Hills.

Administration.

28. Mr. J. R. S. Parsons, I.C.S., remained in charge of the State during the whole of the year.

The revenue from salt shows some expansion; but for some time past it has been considered very desirable to introduce new methods in the working of the mines. The Commissioner, Northern India Salt Revenue, has suggested that mining should take the place of quarrying, but that before embarking on so radical and expensive a scheme a geological survey of the quarries should first be made. The Darbar accordingly applied for the services of an officer of the Geological Department, and the Assistant Superintendent has been deputed by the Government of India to make a detailed survey of the salt-bearing rocks at Guma and Drang.

SUKET.

Area, 420 square miles; population, 54,928; approximate revenue, Rs. 3¼ lakhs; army and police, 78; Raja Lachhman Sen, K.C.I.E., Rajput; aged 33; has no male heir; salute, 11 guns; tribute, Rs. 11,000.

Personal.

29. His Highness Raja Sir Bhim Sen, K.C.I.E., died of pneumonia on the 12th October 1919, and was succeeded by his brother, Kanwar Lachhman Sen, who held a formal installation Darbar in March 1920, which was attended by His Honour the Lieutenant-Governor.

Administration.

30. The new Raja is taking much interest in the conservation of his valuable forests, which have suffered from over-exploitation.

IV.—STATES OF THE LAHORE DIVISION.

CHAMBA.

Area, 3,216 square miles; population, 135,873; approximate revenue, Rs. 4 lakhs; army and police, 419; Raja Ram Singh, Hindu Rajput; has no male heir; aged 29; salute, 11 guns; tribute, Rs. 2,225.

Personal.

31. The most important event of the year was the demise of Raja Sir Bhure Singh on the 22nd September 1919 and the succession of Tika Ram Singh, his elder son.

The new Raja obtained the sanction of Government to the engagement of Lieutenant-Colonel C. P. Thompson, C.B.E. (until recently a Commissioner in the Punjab) to advise him in the administration of the State.

Administration.

32. His Highness has interested himself in placing vaccination and excise administration on a more modern basis in the State. A contingent of the State troops was employed on patrol duties on the Dalhousie-Dunera road during the April disturbances; while His Highness continued his annual contribution of over Rs. ½ lakh towards the maintenance of the Chamba Company of the 2-41st Dogras. For his loyal assistance in these and other matters the Raja received the cordial thanks of the Local Government.

V.—STATES OF THE AMBALA DIVISION.

SIRMUR (NAHAN).

Area, 1,108 square miles; population, 138,250; approximate revenue, Rs. 6 lakhs; army and police, 632; Lieutenant-Colonel Maharaja Sir Amar Prakash, K.C.S.I., Rajput; aged 31; has a male heir; salute, 11 guns.

Personal.

33. His Highness continued to administer his State efficiently, and was granted unrestricted criminal powers in passing sentences on his State subjects.

Administration.

34. The services of the Imperial Service Sappers were placed at the disposal of Government in connection with the Afghan campaign.

KALSIA.

Area, 168 square miles; population, 55,909; approximate revenue Rs. 2¾ lakhs; army and police, 164; Raja Ravi Sher Singh, Jat Sandhu Sikh; aged 17; has no male heir.

Personal.

35. The young Raja has now completed his education at the Aitchison Chiefs' College, Lahore, and is being gradually associated with the work of the State with the help of the State Council. He proceeded to Mussoorie for the hot weather, where he kept good health. Major Clifford has been appointed as his tutor in place of Mr. Eden, deceased. The

State continued to be administered successfully by the Council of Regency.

General. 36. The financial condition of the State is very satisfactory: considerable attention has been devoted to medical relief, both male and female.

PATAUDI.

Area, 53 square miles; population, 18,597; approximate revenue, Rs. 1 lakh; army and police, 77; Nawab Muhammad Iftikhar Ali Khan, Bahadur, Afghan; aged 10 years.

37. The State continued to be administered by the Council as before, and is in a satisfactory financial state. The young Nawab is now being educated at the Aitchison College.

LOHARU.

Area, 224 square miles; population, 18,597; approximate revenue, Rs. 1 lakh; army and police, 80; Nawab Sir Amir-ud-Din Ahmad Khan, Bahadur, K.C.I.E, Mughal; aged 60; has a male heir; salute, 9 guns.

Personal. 38. Sahibzada Wali-Ahd Aiz-ud-Din Ahmad Khan, the Heir-Apparent and Administrator, administered the State efficiently with the help of his father. The Nawab, the Heir-Apparent, and the third son all offered their services in connection with the Afghan War. The Nawab offered his services as an interpreter for the Peace Conference at Rawalpindi. The eldest Sahibzada was given the rank of Captain and appointed as an Honorary Aide-de-Camp to the Inspector-General of Communications, Peshawar. The youngest son, Sahibzada Aitzaz-ud-Din Ahmad Khan, received the temporary rank of 2nd-Lieutenant and served on the Staff of the General Officer Commanding, Baluchistan.

The Nawab joined the Chiefs' Conference held at Delhi during October and November 1919.

The indebtedness of the State is being steadily reduced.

DUJANA.

Area, 100 square miles; population, 25,485; approximate revenue above Rs. $\frac{3}{4}$ lakh; army and police, 122; Nawab Muhammad Khurshaid Ali Khan, Bahadur, C.B.E., Pathan; aged 36; has a male heir; tribute, 50; cavalry on requirement.

39. The Nawab, who has received a C.B.E. for the excellent recruiting services of the State, administered the State himself.

VI.—STATES UNDER THE POLITICAL CONTROL OF THE SUPERINTENDENT, HILL STATES, SIMLA.

40. The chief particulars of these States are given in the following table:—

No.	State.	Area in square miles, including feudatories.	Population in 1911.	Approximate revenue.	Tribute.	Name of Chief.	Race.	Age.	Title.	Whether male heir or not.	Military forces and police.	Remarks.
				Rs.	Rs.							
1	Bilaspur ...	448	93,107	3,33,425	8,000	Sir Bijai Chand, K.C.I.E., C.S.I.	Rajput	47	Raja	Yes	204	Permanent salute, 11 guns.
2	Basahar ...	3,820	88,957	1,44,442	3,945	Padam Singh ...	Do.	46	Do. ...	Yes	13	Personal salute, 9 guns.
3	Nalagarh ...	256	49,230	1,57,460	5,000	Jogindar Singh ...	Do.	50	Do. ...	No	43	
4	Keonthal ...	116	25,354	1,00,971	...	Hamendar Sen ...	Do.	15	Do. ...	No	36	
5	Baghal ...	124	26,008	68,976	3,600	Bikram Singh ...	Do.	27	Do. ...	Yes	25	
6	Jubbal ...	288	23,627	1,98,063	3,520	Bhagat Chand ...	Do.	31	Raja ...	Yes	19	
7	Bhagat ...	36	8,797	50,000	...	Durga Singh ...	Do.	19	Rana ...	No	43	
8	Kumharsain	90	12,219	30,000	2,000	Vidyadhar Singh ...	Do.	25	Do. ...	No	7	
9	Bhajji ...	96	14,972	33,504	1,440	Bir Pal ...	Do.	14	Do. ...	No	32	
10	Mailog ...	43	8,663	37,788	1,440	Durga Chand ...	Do.	22	Thakur	No	16	
11	Ralsan ...	51	6,225	18,500	1,080	Attar Singh ...	Do.	52	Rana ...	No	...	
12	Dhami ...	26	4,484	30,000	360	Dalip Singh ...	Do.	12	Do. ...	Yes	25	
13	Kothar ...	20	4,016	17,000	1,080	Jagjit Chand ...	Do.	33	Do. ...	Yes	8	
14	Kunihar ...	80	2,208	6,000	180	Hardeo Singh ...	Do.	22	Thakur	No	9	
15	Mangal ...	12	1,267	1,000	72	Shib Singh ...	Do.	32	Rana ...	Yes	...	
16	Bija ...	4	1,064	5,000	124	Puran Chand ...	Do.	24	Thakur	Yes	8	
17	Darkoti ...	8	521	7,000	...	Raghunath Singh ...	Do.	36	Rana ...	Yes	...	
18	Taroch ...	67	4,493	50,000	288	Surat Singh ...	Do.	33	Thakur	Yes	...	
19	Sangri ...	16	3,022	5,715	...	Hira Singh ...	Do.	69	Rai ...	Yes	...	
20	Kaneti ...	19	2,854	8,590	...	Amog Chand ...	Do.	29	Thakur	No	...	Tributaries of Bashahr.
21	Delath ...	42	1,392	2,743	...	Narindar Singh ...	Do.	70	Do.	Yes	...	
22	Koti ...	50	8,265	44,161	...	Raghbir Chand ...	Do.	60	Rana ...	Yes	56	
23	Theog ...	144	6,345	14,591	...	Pudam Chand ...	Do.	34	Thakur	Yes	8	
24	Madhan ...	9	3,901	6,500	...	Randhir Chand ...	Do.	33	Do.	No	6	Tributaries of Keonthal.
25	Ghund ...	23	1,857	5,610	...	Ranjit Singh ...	Do.	37	Do.	Yes	...	
26	Katesh ...	12	472	700	...	Hira Singh ...	Do.	52	Do.	Yes	...	
27	Rawin ...	7	749	4,591	...	Kidar Singh ...	Do.	43	Do.	Yes	...	Tributaries of Jubbal.
28	Dhadi ...	25	241	1,600	...	Dharm Singh ...	Do.	31	Do.	Yes	...	

Bilaspur.

41. The administration of the State proceeded smoothly throughout the year. His Highness the Raja paid his customary visit to Simla in September.

His Honour the Lieutenant-Governor visited Bilaspur State in October and saw the site of the projected Bhakra dam. The questions of compensation to the proprietors for expropriation and to the Raja for transfer of proprietary jurisdictional rights are still under consideration. His Highness received the rank of Captain in the Army in recognition of his war services, and the commission was handed to him at Bilaspur by the Lieutenant-Governor.

Bashahr.

42. In recognition of his loyal services and personal efforts to obtain recruits from his State and subscriptions for the War Loans, which resulted so successfully, Raja Padam Singh has been granted the honour of a personal salute of 9 guns.

Nalagarh.

43. The unrest which culminated last year in a rebellion has subsided and a number of prisoners were released by the Raja in connection with the Royal Proclamation of December 1919. The remainder were released on the King-Emperor's birthday. Land and forest settlements of the hill tracts are in progress.

Keonthal.

44. The Raja continued to attend the Aitchison College, Lahore. The administration of the State throughout the year was uneventful.

Bhagal.

45. Lala Raghbir Singh was appointed manager in succession to the late Rai Bahadur Mian Durga Singh. His task has been a hard one, as the Raja shows no signs of an increasing sense of responsibility.

Jubbal.

46. During the winter the Raja made an extensive tour in Southern India and Ceylon.

He invested six lakhs in the Victory Loan.

Baghat.

47. Owing to serious financial mismanagement in the State, as the result of an inquiry, it was found necessary to dispense with the services as manager of Rai Sahib Kanwar Amar Singh, the uncle of the Rana.

Kumharsain.

48. The Rana, having proved himself a capable administrator as manager of his own State, has been invested with full powers.

Bija.

49. A regular revenue settlement is in full progress under the Manager of the State.

Darkoti.

50. Rana Raghunath Singh was installed in December.

Koti.

51. Magisterial powers are reported to have been conferred on the Tikka Sahib.

The road between Simla and Mashobra is being widened, and near Sanjauli land is being acquired from the State for the new Simla Cemetery.

Rawin and Dhadi.

52. The financial arrangements connected with the lease of the Rawin and Dhadi forests to the United Provinces Government have recently been under revision by that Government, and, as a result of good management, it has been found possible to offer a substantial increase of lease money.

53. Other States call for no remarks.

Frontier Affairs.

54. The Frontier had only recently resumed normal conditions after the settlement of the Marri and Khetran disturbances of the year before when the outbreak of the Afghan War again created an anxious situation on the Frontier. At the end of May the families of officers were evacuated from Fort Munro, and a few days later it became necessary to despatch Police reserves to Vehoa, supplemented by a detachment of mounted men from the northern *Tumans* and later by Police reserves from Multan and Muzaffargarh. Finally, troops were sent from Multan to Vehoa and Mangrotha, arriving on June 17th. At this stage the position was further complicated by an attack at Barkhan in the Loralai district of Baluchistan by a gang led by S. Bakhtiar Khan and S. Shah Ghazi Khan, Khetrans, upon Shah Pasand Khan and other members of his family. The apprehensions that this might lead to serious developments were fortunately not realised, and about a month later S. Shah Ghazi Khan

surrendered to the Mazari Chief and was sent to Quetta. A body of Suleman Khel Powindahs and Waziris, having burnt Chittarwatta post on the 16th July, attacked Vehoa two days later. They succeeded in looting a number of houses on the outskirts of the village, eventually retreating with considerable booty in the shape of livestock. A subsequent attack on the village on July 24th was driven off. Reinforcements were, however, despatched from Multan to Vehoa and Mangrotha.

55. On the 9th August a large gang, which had attacked Drug in Musa Khel, attempted to pass through to the plains of Dera Ghazi Khan, but the Buzdars and the Kaisranis offered a bold front to the raiders, refused to let them pass, and subsequently pursued the retreating gang, recovering some of the looted property though suffering some loss in men and considerable loss in property themselves. For this loyal defence a reward of Rs. 5,500 has been sanctioned for the two tribes. On the 17th August Sheranis attacked Kotani and Mithewali villages. The Kotani section managed to escape with its booty, but the larger body of about 70 men was intercepted by the troops and Levy from Vehoa. They lost about 25 men killed and 15 prisoners, and most of the looted property was recovered. No further incident of importance took place, but as precautions troops were despatched to Fort Munro for the sessions of the Jirga and 150 rifles were distributed to the Kaisranis and Buzdars. The troops have since been gradually withdrawn. Towards the close of the year the wounding of a Gurchani by Marris led to reprisals, and there was a possibility of a general outbreak, but negotiations for a settlement by Jirga are proceeding.

56. The Nasir Khel came down according to custom, but none of the usual encampments of Suleman Khel made their appearance in the plains, probably from fear of reprisals from the Buzdars and Kaisranis.

57. Influenza and small-pox broke out in the Buzdar hills during the winter. A sum of Rs. 1,500 was granted from the Imperial Relief Fund, and has been spent on the provision of warm clothing and other relief. The hill population suffered from the prevailing scarcity, but have been able to tide over their difficulties by the sale at high prices of large numbers of goats and sheep to traders, purchasing for the supply of meat to the Army. It

was, however, found necessary to distribute over Rs. 15,000 in *taccavi*.

9.—Condition of the people.

58. The year proved to be an exceptionally healthy one, and, apart from outbreaks of cholera and small-pox, the absence of epidemics was remarkable. There was no recrudescence of influenza, which worked such appalling havoc in the previous year; while the fever mortality was little in excess of the average of the last half century. The birth-rate, although rather higher than that of the previous twelve months, was below the quinquennial average. The decline is in effect the sequel to the influenza epidemic of 1918. Births were, however, more than a quarter of a million in excess of deaths.

59. The spring harvest of 1919 was below normal, and the autumn harvest about normal. Prices, although ruling high, were not maintained at the level of the previous year, partly owing to restrictions on free export and partly owing to the character of the harvests. The agricultural community on the whole enjoyed another prosperous year, as did the commercial classes who were assisted at the close of the year by a rising exchange. There was the usual unsatisfied demand on all sides for labour.

CHAPTER II.

Administration of the Land.

Detailed information on the subjects dealt with in this Chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Realization of the Revenue—Revenue Surveys and Settlements— Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1919.

Professional Surveys.—General Report on the Operations of the Survey of India for the year ending 30th September 1919.

Waste Lands and Government Estates.

1. Annual report on the Punjab Colonies for the year ending 30th September 1919.
2. Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1919.

Wards' Estates.—Report on the Administration of Estates under the Court of Wards in the Punjab for the year ending 30th September 1919.

Revenue and Rent-paying Classes.—Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1919.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agricultural Statistics of India, Volume I.

Area Totals—Table 1-J.
Classification of Area—Table 2-I.
Incidence of Land Revenue—Table 5-I.
Transfers of Land—Table 6-H.
Changes in Boundaries—Appendix B.

10.—Realization of the Revenue.

FIXED LAND REVENUE.

Demand and Collection.

60. The fixed land revenue demand rose from Rs. 235·07 to Rs. 236·61 lakhs, of which 91·4 per cent. was collected. The revenue suspended during the year—Rs. 22 36 lakhs—is considerably larger than in any year since 1907-08, the districts of Gurgaon and Rohtak accounting for more than one-half of this amount. A number of villages were granted

a partial remission of their land revenue as a reward for recruiting services. The balance of land revenue (other than that suspended or remitted) outstanding at the close of the year amounted to only Rs. 11,000.

Riverain action.

61. Owing to scanty monsoon rainfall there were few destructive floods in the rivers, and riverain action resulted in a net increase in the cultivated area. The total assessable area of the Province was this year increased by 4,454 acres; while the net loss in the fixed land revenue roll was less than Rs. 10,000.

Fluctuating Land Revenue.

Demand and Collection.

62. Collection of fluctuating land revenue declined by Rs. 11⅓ lakhs to Rs. 133·38 lakhs. The decrease was due to the generally unfavourable agricultural conditions of the year and shortage of water in the inundation canals occasioned by the low supply in rivers. The Multan Division alone accounts for over Rs. 8 lakhs. The outstanding balance of fluctuating revenue was only Rs. 22,000.

Other Land Revenue.

Rents and Sales.

63. Collections of "other land revenue" show a net increase of nearly Rs. 6 lakhs, thanks to the extensive sale of proprietary rights in Government estates and the enhanced realizations from sale proceeds of waste lands. The inflation is partly attributable to the introduction on the Lower Bari Doab Canal of a differential scale of *malikana* on lands leased for temporary cultivation varying from Rs. 2 to Rs. 16 in lieu of the old flat rate of Re. 1 per acre. Royalties on *kankar*, stone, and coal advanced by Rs. 14,000 to Rs. 52,000. The uncollected balance at the close of the year amounted to Rs. 73,000.

Miscellaneous.

Coercive processes.

64. In spite of agricultural adversities the number of coercive processes fell from 11,434 to 9,597. These processes were issued for arrears amounting to Rs. 7·72 lakhs, out of which 95 per cent. were collected. There were three cases of imprisonment and only four of actual attachment of immovable property. As usual the Multan Division figured most prominently, but the district with the largest number of actual attachments in cases of distraint was Gujranwala.

Postal Process Service.

65. Although the system of serving through the post revenue processes other than those for the recovery of land revenue has met with success it cannot be said that it has resulted in any reduction in the number of tahsil peons; indeed, a few additional process-servers were employed in six districts for short periods to recover land revenue. The system is not favourably reported on in the Gujranwala District, which may be due to passive resistance to the introduction of the change and also to the fact that its working has been hampered by village postmen learning and adopting the methods of the process-server. In Dera Ghazi Khan the parties concerned are prone to evade service. The courts were, however, instructed to treat such evasions, in the absence of special circumstances, as if service had been effected. It is said that the advantage of the ordinary system over that of the postal system is that in the case of the former the party to be served is told by the process-server what the contents of the notice are; while, in the case of the latter, he has, if illiterate, to get it read to him by some one. These difficulties, however, are not insurmountable.

Methods of payment.

66. The payment of revenue through the post in currency notes or by money-orders has grown further in popularity, especially with small or distant remitters in districts where communications are bad. Rs. 7·9 lakhs were remitted in notes in 24 districts as against Rs. 3·5 lakhs in 12 districts in the last year. Revenue paid by money-orders amounted to nearly Rs. 19 lakhs in 25 districts. The remittance of revenue by currency notes will extend with the general recognition that it combines economy with practical safety.

Girdawari by appraisement.

67. The system of *girdawari* or crop survey by appraisement, if theoretically more satisfactory than the existing method, is found to be full of difficulties. The trained eye and deliberate judgment required to estimate the outturn of a field with any degree of accuracy are not found in the average patwari and the system after trial for four harvests in certain selected areas has been abandoned. In the preparation of crop forecasts, which were purely conjectural, better use is now made of the special knowledge of the officers of the Agricultural Department.

Board of Economic Enquiry.

68. An important feature of the year was the formation of the Board of Economic Enquiry for the scientific study of economic problems of the Province. The Board, as constituted, is divided into two branches: one will investigate rural problems such as the economic holding, the consolidation of holdings, agricultural indebtedness, the transfer and value of land and the incidents of tenancies; the other will deal with urban problems such as the housing of the poor, infantile mortality, prices of food and wages. The branches will work in co-ordination and when necessary hold joint sessions. A grant of Rs. 20,000 has been made to the Board for research work and publication of the results of its enquiries.

Reform Scheme Statistics.

69. In order to supply figures required by the Franchise Committee constituted in connection with the Reforms Scheme, statistics were collected during the year from all districts of the number of land-owners in each district paying not less than Rs. 20 per annum of land revenue and also of all village headmen. Revenue-payers were divided into six grades and lambardars into three grades, according to the amount of land revenue they paid. Females and minors (in this case adult males of not less than 21 years of age) were excluded from the figures. As far as practicable no land-owner or village headman was counted more than once in the same district. The statistics show that the number of land-owners who pay not less than Rs. 20 per annum in land revenue by Divisions are—

Ambala	...	...	...	60,045
Jullundur	...	...	...	71,869
Lahore	...	...	...	86,312
Rawalpindi	...	...	...	34,421
Multan	...	...	...	64,891

or a total for the whole Province of only 317,538, equal to less than 10 per cent. of the grand total 3,954,317 of all land-owners (including minors, females and land-owners counted more than once). This result brings out vividly the extent to which the Province is one of small peasant proprietors.

The divisional statistics of lambardars or headmen give for—

Ambala	...	...	...	14,731
Jullundur	...	...	...	12,568
Lahore	...	...	...	15,978
Rawalpindi	...	...	...	9,777
Multan	...	...	...	9,169

or a total for the Province of 62,223, of whom over one-half pay less than Rs. 25 annual land revenue for the land owned by them.

11.—Professional Surveys.

Surveys of riverain areas.

70. The Punjab Riverain Detachment of the Survey Department continued riverain surveys on the Indus, Sutlej, Chenab and Ravi rivers in connection with the Dera Ghazi Khan, Multan and Muzaffargarh Settlements. Five hundred and fifty-six linear and 611 square miles of main circuits and 3,115 linear and 611 square miles of minor traverses were executed: 944 theodolite stations of the former and 13,003 of the latter in 179 villages were fixed in the area under river action. Corners of 342 squares were demarcated in 982 square miles with permanent mark stones on both banks of the rivers Indus, Sutlej, Chenab and Ravi to serve as bases for the future survey and demarcation of boundaries and fields in the beds of the rivers. Two thousand and thirty-four plotted and 646 boundary large scale mapping sheets and 41 four-inch sheets were traced and supplied to Settlement Officers. Besides these, 436 boundary large scale mapping sheets were partially compiled and 190 miscellaneous traces were prepared, while all the traverse stations marked during the year were plotted on 38 four-inch sheets. Corners of 51 rectangles were demarcated with pegs in 22 square miles forming 46 blocks; and 176 stations were fixed with theodolite and 34 linear miles traversed in 5 riverain villages on the Sutlej in the Mailsi Tahsil of the Multan District.

Town surveys, &c.

71. In the Jhelum town survey 209 stations were fixed with theodolite and were permanently marked with stones, and 23 linear miles were traversed in 1,820 acres. Two plotted sheets on the

scale of 16 inches to a mile were supplied to the Deputy Commissioner of Jhelum. The total expenditure of the detachment during the year was Rs. 1·17 lakhs.

Topographical survey operations were continued under No. 1 Party (Northern Circle) of the Survey of India which surveyed an area of 1·68 square miles of Lahore City, Railway Station and part of Anarkali, and 0·51 square mile of Ferozepore City and City Railway Station on the scale of 16 inches to one mile for the purpose of Town Guide Maps.

Rectangular surveys.

72. Rectangular survey operations in connection with the Sind-Sagar Canal and Colonization project were continued by the Sind-Sagar Party, with the assistance of a revenue-staff of Tahsildars, Naib-Tahsildars, kanungoes and patwaris deputed for service with the Party. From the temporary marks fixed by triangulation in field season 1917-18 and those fixed by traversing in the field season under report 1,920 four thousand-acre corners and (in some cases) two thousand-acre corners forming 1,342 four thousand-acre rectangles (partial and complete) were located on the ground over an approximate area of 7,863 square miles in the Mianwali, Shahpur, Muzaffargarh and Jhang Districts; while 623 four thousand-acre rectangles (partial and complete) were broken into 23,324 hundred-acre rectangles over an area of 3,644 square miles in the Mianwali, Shahpur and Jhang Districts, leaving 719 four thousand-acre rectangles (partial and complete) for hundred-acre sub-demarcation to be undertaken next field season. Traversing for laying out temporary marks near the two thousand and four thousand-acre corners which were used subsequently in the location of these corners was also carried out by the Party in a strip of thickly wooded country along the western edge of the Thal in the Muzaffargarh District (in which triangulation was impracticable) up to a total length of 280 linear miles extending over an approximate area of 405 square miles.

73. Revisionary precise levelling was carried out by the Survey Department for a distance of 56 miles from the Pathankot-Palampur Road to the Chambi bridge and thence by the bridle road *viâ* the Kotwali and Macleod Ganj Bazars to Dharamkot Hill (Dharmsala).

Boundary delimitation.

74. There was no important alteration in district boundaries during the year dealt with in the Land Revenue Report (ending 30th September). No boundary disputes arose except in the case of two villages of the Multan District and Bahawalpur State, where an amicable settlement is anticipated. Boundary pillars between the Pathankot Tahsil of the Gurdaspur District and the Basohli Tahsil of the Jammu State were erected during the year.

12.—Revenue Surveys and Settlement.

Settlements commenced and in progress.

75. There were again four settlements in progress during the year. In Ambala the announcement and distribution of the new assessments in both the headquarters and Naraingarh Tahsil (with the exception of the Morni Hill Tract) was well received. In the Multan settlement operations commenced in the Multan, Shujabad, and Lodhran Tahsils at the beginning of the year, but owing to the late arrival of the full staff and a serious outbreak of influenza measurement work was somewhat retarded. In the Lyallpur District the remeasurement of 27 estates, situated in the Upper Chenab Canal Colony, the greater part of the area of which had been allotted, was begun for the purpose of preparing a Record-of-Rights. The work has been completed in 15 estates. In the Dipalpur and Pakpattan Tahsils of the Montgomery District and in the Sirsa Tahsil of the Hissar District, where settlement operations were due to begin in October 1919, scrutiny of the current *jamabandis*, the writing-up of mutations, and the checking of existing field maps were undertaken by an advance settlement staff during the year.

Final Settlement Report.

76. The orders of Government were passed on the Final Settlement Report of the tract in the Shahpur District lying outside the irrigation limits of the Lower Jhelum Canal. In the Thal and Mohar circles of the Khushab Tahsil the term of settlement has been fixed for 15 years subject to revision in any estate which may receive earlier irrigation from the Sind-Sagar-Canal. Should this canal not be constructed within the term of settlement now sanctioned the question of extending this term will be reconsidered for this

circle. In the rest of the tract under settlement the term will be 30 years.

Settlements completed.

77. The Kangra Settlement came to an end during the year. The assessment reports of the Jagadhri Tahsil and of the Morni tract of the Naraingarh Tahsil of the Ambala District, of the Kabirwala Tahsil of the Multan District, and of the Jampur and Rajanpur Tahsils of the Dera Ghazi Khan District were received and orders passed on all of them.

Re-settlements.

78. The forecast reports of the Muzaffargarh District and of the 527 villages on the Jhang Branch, Circles I, II and III, and on the Gugera Branch, Circle I, in the Lyallpur District, and of the tract irrigated by the Lower Jhelum Canal in the Shahpur District were received. Chiefly owing to their pre-eminent war services the term of settlement of the Jhelum and Rawalpindi Districts has been extended by ten years; while that of the Talagang Tahsil has been extended so as to expire simultaneously with the settlement of the Attock Tahsil in Rabi 1925.

13.—Land Records.

Patwaris.

79. The conduct and efficiency of the patwaris is in general reported to have been satisfactory, and there was a decrease in the total number of punishments awarded as compared with the preceding year. It is creditable to the patwari staff that the land record work of the Province should be done as well as it is, considering the very limited supervision which it has been possible for superior officers to afford during the last few years. The number of dismissals was 117 or 1·4 per cent. of the total strength. Promotions to superior posts (in addition to advancement to the post of settlement kanungo) numbered 55. The attractions of the service should be increased now that Government has undertaken the responsibility for providing gradually and maintaining accommodation for the patwari and his office throughout the Province. The experiment of the amalgamation of canal and revenue patwaris was tried for several years in selected colony villages in the Lyallpur and Shahpur Districts, but it did not achieve sufficient success to justify its extension and has been abandoned.

Kanungos.

80. The Deputy Commissioners, who have reported on the work of their kanungos, consider it to be fairly satisfactory, but many district officers have made no remarks about the efficiency or otherwise of the field and office kanungo staff. The reports on the work of the district kanungos are favourable for all districts except one. Only 9 kanungos were promoted to superior posts during the year as against 13 in the preceding year.

Accessibility of revenue records.

81. The scheme of appointing a special kanungo for making the contents of revenue records more readily accessible to litigants in Civil Courts has worked satisfactorily in most districts of the Province; and a proposal to extend the scheme to Revenue Courts is under the consideration of the Financial Commissioners.

State of records.

82. Measurement work has been entirely completed in the Mailsi and Kabirwala Tahsils and all the new records filed. In the other three tahsils the proivsional programme has been outstripped, and at the end of the year the new records of 409 villages with connected papers had been filed. The riverain survey of the Chenab and Sutlej was completed and recordsprepared on the data supplied by the Survey Department. Measurement work in the Dera Ghazi Khan District was concluded with the completion of measurement work in the Jampur and Rajanpur Tahsils. The new records of the Sanghar and Dera Ghazi Khan Tahsils were completed and filed, while in the other two tahsils they were nearing completion. The hill torrent records of Sanghar have been completed, and those of the Dera Tahsil are being finally attested.

14.—Waste Land and Government Estates.

The Lower Jhelum Colony.

83. The year was one of agricultural prosperity for the Lower Jhelum colonists who were favoured with abundant water, good yield and high prices for their wheat and cotton. The area under cotton, which is the main *kharif* staple in the colony, was nearly 30 per cent. more than in the previous year. A beginning was made in the resumption of tree-planting grants for breach of conditions, the land being transferred to the District Board, which becomes liable for the maintenance of the roadside trees and plantations.

84. Over 1,400 acres were allotted, more than half of this area being devoted to exchanges of certain landed gentry grants originally given in the Lower Bari Doab Colony. In view of the serious deficit of good land in the Lower Bari Doab Colony the policy of reducing the pressure there by the utilisation of Crown lands elsewhere is being steadily pursued, and it is proposed to allot to soldier grantees of the Rawalpindi Division 10,000 acres of unirrigated land in the Khushab Tahsil in lieu of 5,000 acres of irrigated land in the Montgomery District. A scheme to take over from the Military Department the lands to be released from camel-browsing in Rakhs Dhrema and Risala on the extension of irrigation in consequence of the remodelling of the Lower Jhelum Canal is also under consideration.

85. The notified area towns continue to flourish, and all, with the exception of Phularwan, have adopted a terminal tax. Town sites fetched very high prices, competition being stimulated by the general desire to find a safe investment for increased wealth. Forty-five-and-a-half mares and horses on horse-breeding conditions including squares of grants were sold for over Rs. 2·34 lakhs or an average of Rs. 5,160 per square.

The Lower Bari Doab Colony.

86. In the Lower Bari Doab Colony the year was one of substantial progress. The total area sown rose from 540,757 to 632,898 acres and the percentage of failed crops decreased from 10 to under 9 on permanently-allotted lands and from 25 to 16 on those given out for temporary cultivation. The growth in popularity of American cotton is striking: the area under this crop, namely, 192·865 acres, having more than doubled in two years. It is possible that there is really some difficulty in its manipulation, and that country cotton will retain its popularity for use in the cottage, but it is curious to read that Punjab 11 wheat is, like American cotton, grown for export alone, being considered indigestible for home consumption.

87. Temporary cultivation (which though eagerly sought after for its profits, is a source of considerable embarrassment to the staff) has continued to bulk largely in the economy of the colony. Occasion was consequently taken to classify the various areas available for such cultivation, and in lieu of the old flat rate of Re. 1 per acre *malikana*, which prevailed there as in permanent allot-

ments, the imposition of a differential scale of *malikana* varying from Rs. 2 to Rs. 16 per acre was sanctioned. A very large increase of revenue will result from this change.

88. The amenities of life in the colony are increasing. Progress has been made in sinking drinking wells in the villages. Twenty-five new primary schools were started during the year and it is contemplated to open 44 new post offices and 4 telegraph offices. The construction of the three hospitals at Chichawatni Road, Mian Chanun, and Khanewal has progressed, but the policy of starting itinerating hospitals has not yet been put in operation.

89. The prices obtained for the sale of town sites are as remarkable as those of agricultural land; and a few new town shops in Montgomery yielded over Rs. 5 lakhs per acre. The Lieutenant-Governor visited all the *mandis* of the colony and was much impressed by the quality of the buildings erected and the busy air of prosperity that prevails. Arrangements for the improvement of the train services on the chord line and to Mian Chanun have been recently sanctioned by the Agent of the North-Western Railway. The ginning factory sites sold under special conditions at prices below market rates were distributed among as many different interests as possible (including the Japan Trading Co.) in order to minimise risks of the formation of a ring against the producers. Most of them are now in working order, and are by no means in excess of requirements.

The Upper Chenab Colony.

90. The Upper Chenab Colony, though progressing, is still far from prosperous. The policy of doubling the area of the grants in tracts receiving irrigation in one harvest only and of encouraging the sinking of wells for winter irrigation is meeting with visible success. *Takavi* advances for well sinking were made on a large and liberal scale, but progress has been hampered by lack of wagons to carry coal from Bengal. Possibly, the Financial Commissioner's scheme of granting land to two contractors who have in return engaged to supply bricks at a reduced rate may accelerate the sinking of wells.

91. The disappointed Jhelum grantees have not made a good class of colonists, nor have they been able to get a good

class of tenants. The cultivated area has slightly increased, but the same apathy is displayed in house-building. The creation of the new Sheikhupura District under a Deputy Commissioner, who has time to attend to this part of his charge, and the inclusion in the district of the Lyallpur portion of the colony should be to the benefit of the whole colony.

The Upper Jhelum Colony.

92. The area let out on temporary cultivation went up from 4,225 acres in 1917-18 to 10,956 acres in 1918-19. The market at Baha-ud-Din is thriving.

15.—Wards Estates.

Management.

93. One estate was released and six were taken under management by the Court of Wards, the total number of estates under superintendence at the end of the year being 45. The Manauli Estate was released, but had at once to be replaced in charge of the court because the ward had entered upon a course of wasteful extravagance likely to dissipate his property. The estate had been under management since 1909, with the result that besides clearing off a debt of Rs. 50,000 another ½ lakh was invested in permanent improvements and nearly 2 lakhs in securities.

Finance.

94. Investments in Government securities show a decline from Rs. 5·63 lakhs—the exceptionally high figures of the previous year—to Rs. ·63 lakh in the year under report. Very little was spent on the purchase of land and nothing on that of house property. High prices tended to discourage investments in these directions. The amount invested in the repayment of debts also decreased from Rs. 5·30 lakhs to Rs. 1·64 lakhs. On the other hand, the balance in the treasuries shows a rise from Rs. 4·77 lakhs in 1917-18 to Rs. 9·04 lakhs in the year under report. The amount spent on permanent improvements shows a satisfactory increase from Rs. 1·09 lakhs to Rs. 1·68 lakhs. It includes a sum of nearly Rs. 98,000 spent by the Mamdot Estate on a tube well, up-to-date stables, residential houses and half a dozen ordinary irrigation wells. The same estate spent Rs. 20,111 on arboricultural operations, planting 500 miles of road and canal bank with trees. In the Guru Har Sahai and Luddan Estates, also, arboriculture is reported to be flourishing.

Rents.

95. Recoverable rent in arrears amounted to Rs. 2 lakhs as against Rs. 1·71 lakhs last year. The outstanding amounts were heavy in Arnauli, Manauli, Kotaha and Atari. The majority of the estates under the Court of Wards rely on cash rents, a system which has the advantages of simplicity and easy management, while it deprives the estate owner, or the Court of Wards (his trustee), of a direct incentive to introducing improved agricultural methods, and also of the benefit of rising prices. The District reports show that in those estates where the system of cash rents is not in vogue the income from kind rents exhibited a marked rise on account of the prevailing high prices.

Education.

96. The education of wards and their relatives is proceeding on sound lines. At present 15 wards and 8 relatives of other wards receive instruction in the Aitchison Chiefs' College. Three wards received training in the Punjab Agricultural College, Lyallpur. Both Principals reported favourably regarding the progress made.

The Sardar of Kot Fateh Khan, who had taken an active interest in recruiting among his tenants, was granted a King's Commission and is making good progress at Sandhurst.

16.—Revenue and Rent-paying Classes.

General.

97. The total area of the Province, according to the entries in the latest revenue records, is 56,269,000 acres. The figures for cultivated area show an increase of 149,000 acres over the area of nearly 29 million acres shown in Statement III of last year's Land Revenue Report. The chief contributors are Gujrat, Montgomery, Lyallpur, Lahore, and Dera Ghazi Khan. The cultivated area under mortgage shows an increase of 36,060 acres, and the percentage of this area to the total cultivated remains at 10·9.

Loans under the Land Improvements Loans Act, XIX of 1883.

98. The amounts advanced for land improvements rose from a little less than Rs. 77,000 to Rs. 1,80,000. As was the case last year, except for the construction of embankments in a few districts, *taccavi* loans were taken practically in all cases for the repairs or construction of wells. Although there has been a considerable increase in

the amount advanced during the year as compared with the previous year, a number of causes mainly due to the war, such as large remittances from men on military service, the continued high prices of material and the dearness and scarcity of labour, have operated to restrict the demand for loans. But there is also no doubt that the increasing prosperity of the agricultural classes makes it more and more easy for them to finance their own agricultural improvements. The increase is, therefore, considered satisfactory, and it is hoped that the measures recently adopted for making these loans more popular, whereby applications are received and disbursements made by officers whilst on tour, will result in an even greater demand next year.

Loans under the Agriculturists' Loans Act, XII of 1884.

99. The amount advanced under this Act rose from Rs. 3·1 lakhs to Rs. 8·9 lakhs. The large amount advanced in loans is due to the failure of the monsoon in 1918 with a consequent bad *kharif* and poor *rabi*. There was great scarcity of fodder during the year and large sums were advanced for its purchase, while for the import from canal-irrigated districts concession rates in railway freight were granted to a number of districts. Further, with good rains in the earlier part of the monsoon season of 1919 there arose a considerable demand for advances for seed and for purchase of cattle to replace those that had died or were sold in the period of fodder scarcity, two consecutive inferior harvests having caused a heavy drain on the resources of the zamindars. The demand for loans was heaviest in the south-eastern and south-western districts—Gurgaon (Rs. 1,40,000), Muzaffargarh (Rs. 1,35,000), Multan (Rs. 1,01,000), Rohtak (Rs. 84,000) and Dera Ghazi Khan (Rs. 66,000), accounting for nearly one-half of the total amount advanced. Advances were also heavy in Montgomery (Rs. 61,780), these being made both in the area outside the irrigation limits of the Lower Bari Doab Canal and in the Lower Bari Doab Canal Colony.

Transfers.

100. The cultivated area (ownership) sold during the year was 142,169 acres, while the sales of uncultivated land (ownership) reach almost the same area as last year, *viz.*, 71,796 acres. Nearly the whole increase of 42,000 acres in the cultivated area sold was in the Montgomery and Multan Districts owing to sales of proprietary rights in Government land to colonists

and Crown tenants. The cultivated (ownership) area reported as redeemed (including areas redeemed but re-mortgaged) was 261,920 acres against 200,855 acres in the preceding year, and the mortgage debt discharged was Rs. 216·03 lakhs, an increase of 39 lakhs over last year's figures. The improvement is most marked in the case of the Multan, Hissar, Rohtak, and Mianwali Districts, where it is ascribed to the general rise in the money value of agricultural land, enabling mortgagors to redeem old mortgages by re-mortgages of small areas. In other districts the profits due to high prices of agricultural staples or the savings of men on military service are cited as causes. The enquiry referred to in the two previous years' reports regarding the continued decrease in the area reported as redeemed during the quadrennium concluding with 1917 goes to show that the causes operating in various ways to discourage redemption were temporary and due to the war. The financial stringency caused by the banking crisis in the Punjab in 1913-14 was succeeded by a certain degree of distrust as to the ultimate issue of the war, resulting in a lock-up of cash which the figures of the year under report show to have terminated. The cultivated area (ownership) mortgaged during the year was 210,543 acres against 199,779 acres in the previous year. It was less by 51,000 acres than the area reported as redeemed, but the latter area always includes lands redeemed but re-mortgaged; and at the end of the year the total area under mortgage was greater as stated in paragraph 97 above. The mortgage debt redeemed during the year amounted to Rs. 216 lakhs, whereas the mortgage debt freshly incurred by new mortgages or by re-mortgages of redeemed areas amounted to nearly Rs. 311 lakhs. That this great increase in the total mortgage debt is largely due to the great progressive rise in the value of land is borne out by the fact that the mortgage money of the new mortgages and re-mortgages averages Rs. 148 per acre mortgaged; while the mortgage money discharged by redemptions averages only Rs. 82 per acre redeemed.

The area transferred by gifts (as usual chiefly transfers for religious and charitable purposes and transfers to relations) has increased by 5,000 acres to nearly 80,000 acres. The area transferred by exchanges (mainly for consolidation of holdings) was nearly 35,000 acres against 32,000 acres in 1917-18.

Value of land.

101. The average recorded price of cultivated land has fallen from Rs. 252 per acre in the previous year to Rs. 184. The sale of a considerable amount of Government land during the year to Crown tenants in the Sohag Para and Sidhnai Colonies at merely nominal rates assisted in depressing the provincial average sale price. The majority of the districts report a rise in value owing to the continued high prices of agricultural produce. In the Lower Bari Doab Colony the prices realised at the auction sale of agricultural land were unexpectedly high, an area of nearly 8,868 acres being sold at an average price of Rs. 493 per acre ; while the highest price realised was Rs. 1,018 per acre for a lot of 25 acres in a village one mile from Khanewal railway station. The sale price for the Province as a whole represents 127 years' purchase of the land revenue assessed as against 171 years' last year. The mortgage value of land, the ownership of which was mortgaged during the year, was Rs. 310·76 lakhs against 329·86 lakhs in 1917-18 and represents 97 times the land revenue assessment of the land against 91 times in the previous year. The average mortgage money per acre on the whole area mortgaged was Rs. 124 against Rs. 140 last year.

Land Alienation Act.

102. During the year the provisions of the Act other than those of section 10 were extended to the Kotgarh tract of the Kot Khai Tahsil of the Simla District and 11 agricultural tribes therein were notified under section 4 in one local group. The Arain tribe was added to the local groups in Kangra proper and in Kulu. Agricultural tribes gained by purchase 41,000 acres net against 9,000 acres in the previous year, but lost by mortgage and redemption taken together 49,000 acres against a previous loss of 28,000 acres. Sales by agricultural tribesmen have increased by 8,000 acres to 154,000 acres, and sales to them have increased from 155,000 acres to 195,000 acres. Sales to " others " show an increase from 34,000 acres to 37,400 acres. The Act continues to be widely appreciated by those whom it was intended to protect.

Rent-paying classes.

103. The number of suits brought for enhancement of rent was 681, of which 570 were successful. The number of suits for reduction of rent has fallen from 28 in 1917-18 to 5 this year.

There were only 11 decrees for ejectment of occupancy tenants under section 39 of the Tenancy Act as against 111 decrees last year. The ejectments of occupancy tenants actually made numbered 15 against 48. There has again been a large decrease in the total number of applications for service of notice of ejectment and of notices of ejectment of tenants-at-will, the aggregate number of ejectments being only 2,838 against 3,992 last year. The chief reasons given for the decrease are bad seasons, the influenza epidemic, the disturbances, scarcity of tenants, and enlistments in the Army. A marked scarcity of tenants in other parts of the Montgomery District is attributed to emigration to the Lower Bari Doab Colony.

Miscellaneous.

Punjab Land Preservation (Chos) Act.

104. Orders were passed during the year approving the proposal that action under section 5 of the Chos Act should be taken in the Rupar and Kharar Tahsils of the Ambala District and a grant was provided to meet the estimated expenditure on compensation. The appointment of a Naib-Tahsildar to supervise the area notified under section 4 of the Chos Act in these tahsils, and protective and reclamation work undertaken elsewhere in the Rupar Sub-Division, has been sanctioned up to April 1922, while the employment of the existing forester and 6 forest guards has been extended for the same period. The proposal of the Financial Commissioner that a forest officer should, when available, be deputed to report on remedial measures in the Morni ilaqa and the Naraingarh, Jagadhri and Ambala Tahsils has also been approved by Government. The States of Patiala and Nalagarh have been addressed through their Political Agents with a view to securing co-operation in preventive and remedial measures in their adjoining areas. Great efforts have been made to plant grasses in the hill torrent beds in Rupar and Kharar Tahsils with the object of preventing further soil erosion. Plantations made by the Canal Department in the month of March succeeded, whereas a large proportion of those planted by the district staff during the rains failed. In Hoshiarpur the experiments referred to in last year's report were continued in the Maili Cho with varying success. In the Maili village, where the people co-operated whole heartedly, excavation and embankment works were entirely successful in preventing further erosion

and reclaiming some 50 acres. As regards the Hoshiarpur hill areas the improvement in the condition of villages, to which the provisions of section 5 of the Chos Act were applied fifteen years ago, is being maintained. The most gratifying feature is that the villagers now appreciate the financial advantage to be derived from conserving grass and trees and in some cases are of their own accord adopting restrictions on grazing. An allotment of Rs. 5,000 for grants to villages for reclamation of Cho beds in the Ambala and Hoshiarpur Districts was made for the current year.

Descent of Jagirs Act.

105. The number of jagirs notified under the Act remains at 149.

CHAPTER III.

PROTECTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Police.—(1) Report on the Police Administration of the Punjab, for the year 1919.

(2) Report on the working of the Criminal Tribes Act for the year 1919.

(3) Report of the Chemical Examiner to Government, Punjab, for the year 1919.

Criminal Justice.—Report on the Administration of Criminal Justice in the Punjab and its Dependencies during the year 1919.

Prisons.—Report on the Administration of the Jails in the Punjab, 1919.

Civil Justice.—Report on the Administration of Civil Justice in the Punjab and its Dependencies during the year 1919.

Registration.—Report on the Administration of the Registration Department of the Punjab for the year 1919.

Legal affairs of Government.—Report on the Administration of Legal Affairs of the Government of the Punjab for the year 1919.

Local Boards Administration.—Report on the Administration and Accounts of the District Boards in the Punjab for the year 1919-20.

Municipal Administration.—Report on the working of Municipalities in the Punjab during the year 1919-20.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume IV, Administrative and Judicial (including area, population and local funds).

17.—Legislating Authority during the year 1919-20.

106. The following changes took place amongst the members of the Council :—

(1) His Honour Sir Edward Maclagan took office as President of the Council in place of Sir Michael O'Dwyer, retired.

(2) The Hon'ble Mr. E. A. A. Joseph was nominated in place of Mr. H. D. Craik.

(3) The Hon'ble Mr. B. T. Gibson was nominated in place of Mr. O. F. Lumsden.

(4) The Hon'ble Mr. J. P. Thompson was nominated in place of Mr. L. French.

(5) The Hon'ble Mr. P. J. Fagan was re-nominated on his reversion from the Imperial Legislative Council.

(6) The Hon'ble Pandit Shiv Narain, on his being appointed as Additional Government Advocate, resigned his seat, and on the termination of that appointment was re-nominated.

(7) The Hon'ble Mr. L. French was nominated in place of Mr. J. P. Thompson.

(8) The Hon'ble Mr. W. T. Wright was nominated in place of Mr. J. A. Richey.

(9) The Hon'ble Lieut.-Col. Davidson was nominated in place of Colonel MacWatt, who proceeded on long leave.

(10) The Hon'ble Mr. John Powell was elected in place of Mr. E. W. Parker, deceased.

18.—Course of Legislation during the year 1919-20.

Meetings.

107. Five meetings of the Legislative Council were held during the year under report at the Government House, Lahore (7th April 1919, 10th November 1919, 6th March 1920, 8th March 1920, and 13th March 1920).

Bills passed.

108. The following Bills were introduced and passed in Council during the year :—

(1) The Punjab Customs (Power of Contest) Bill.

(2) The Punjab Limitation (Customs) Bill.

(3) The Bill to amend Colonization of Government Lands (Punjab) Act, 1912.

Resolutions.

109. Out of the seven resolutions concerning—

(1) His Majesty's Proclamation on Reforms,

(2) the appointment of an Indian to the Staff of the Medical College, Lahore,

(3) the status and emoluments of Munsiffs,

(4) the prohibition of sale by auction of liquor licenses for more than one year,

(5) the qualifications for a voter in a Constituency,

(6) the formation of a single Constituency in a district returning two representatives,

(7) the provision of one electorate to return two representatives of Muslim land-owners to the Council or of two equal electorates returning one representative each,

Nos. (1) and (2) were passed; Nos. (3) and (6) were withdrawn; No. (4) negatived; and Nos. (5) and (7) were lost.

Questions.

110. Two hundred-and-three questions were put and answered.

INDIA ACTS.

111. No Acts particularly affecting the Punjab were passed by the Imperial Legislative Council during the year.

19.—Police.

GENERAL POLICE FORCE.

General.

112. The number of true cognizable offences of all kinds dealt with by the Police in 1919 was more by 2,962 or 8 per cent. than in the previous year in which an increase of a half per cent. was shown. Excluding petty offences under local and special laws there were 28,959 true cases as against 25,605 in the previous year—an advance of 13 per cent. on the figures of 1918.

Causes of increased crime.

113. The rising tendency exhibited by the curve of provincial crime towards the end of last year persisted. Many adverse circumstances combined to maintain this tendency. Apart from the inevitable reaction following on the removal of restraints imposed by four years of war and the unsettling effects of demobilization, stock of food-grains were not abundant, and the cost of all the necessaries of life remained at a high level. In addition there was acute political unrest, developing in April into the disturbances which involved the declaration of martial law in certain areas. In circumstances such as these, a record volume of crime might well have resulted, whereas the figures, while

showing a substantial increase over those of the previous year, were still considerably below the pre-war level.

Relations with the public.

114. The co-operation of the public throughout the year, and especially during the disturbances, was acknowledged by cash rewards and grants of land considerably in excess of those given in previous years. On the other hand, failure to realise responsibilities in this connection and connivance at, or active participation in, the disturbances led to an increase of punishments inflicted on village officers, and the location of a large number of punitive posts, of which 47 were in existence at the end of the year. All posts located in consequence of the disturbances were, however, withdrawn by the 1st April 1920.

Murders and *dakaitis*.

115. Murders, which had steadily decreased (with the exception of a slight relapse in 1916) from 625 in 1913 to 508 in 1918 were only one in excess of the latter figure. While the cases in the Lahore District declined from 56 in 1918 to 37 there was a jump from 18 to 31 in the Amritsar District, the latter number including the cases of five Europeans who were done to death during the disturbances. Immorality was, as usual, the most frequent cause of murder. It is, however, satisfactory to note that only three cases originated in infidelity on the part of wives of sepoys absent on service.

There was a marked rise in *dakaitis*, which numbered 130 as compared with 41 in 1918, and included nine border raids in the Dera Ghazi Khan and Mianwali Districts. In the Lahore District, which showed the largest advance, the cases were mostly of a petty nature, and were due to a general spirit of lawlessness engendered by the disturbances. Several *dakaitis* were the work of sepoys from regiments stationed in the neighbourhood.

Burglaries and thefts.

116. Burglaries rose from 12,332 in 1918 to 13,239, an expansion of seven per cent. Similarly, ordinary thefts rose from 5,498 to 6,325 or 15 per cent. Conditions were all in favour of an outbreak in this class of crime, and that these increases were not greater is due to the operation of the *thikri pahra* system and the Habitual Offenders' Act.

Results of police work.

117. In spite of the fact that for some months of the year the political situation largely diverted the attention of the Police and Magistracy from their normal duties, detection and prosecution results showed an improvement. The all-round percentage of cases convicted to true cases was 31·51 as against 28·58 in the previous year; while the percentage of cases and persons convicted to cases and persons tried were 71·60 and 56·62 as compared with 70·33 and 56·91 in 1918.

Preventive measures.

118. During the year 2,230 persons were called upon to furnish security under Section 110 of the Code of Criminal Procedure as compared with 2,270 in 1918; on the other hand, far greater use was made of the Habitual Offenders' Act. The number of persons restricted under this Act at the beginning of 1919 was 228, and 1,406 more were restricted during the year. The *thikri pahra* system of village patrolling, carried out either voluntarily or under the Village Patrol Act, was also utilized with success for the safeguarding of the railways during the disturbances.

Criminal Investigation Department.

119. The Criminal Investigation Department has rendered excellent service to the Administration under circumstances of unusual difficulty, the Political Branch in particular being subjected to exceptional strain. The violent political agitation of the first three months of the year, culminating in the disturbances of April, was followed by the Afghan War, prosecutions before the Martial Law Tribunals, the tours agitators from other Provinces, and the sitting of the Disorders Enquiry Committee. Finally, at the close of the year there were sessions at Amritsar of the National Congress, the Indian Muslim League, the All-India Khilafat Committee, and several other All-India bodies.

In addition to work in connection with the disturbances, the Crimes Branch dealt with a variety of important cases, including recruiting frauds and a forgery of priority certificates.

War measures.

120. At the close of last year 16 persons remained subject to internment under the Ingress Ordinance, to which number one addition was made during the year under review. Similarly, the

number of persons restricted under the Ordinance at the close of 1918 (545) was increased by 20. Under the Defence of India Act the number restricted at the close of 1918 was 76, and 21 fresh restrictions were ordered this year. A revision of the previously existing orders was carried out, which resulted in numerous releases; and by the end of the year, as a result of the amnesty declared by Royal Proclamation in December, all remaining orders had been cancelled.

Finger Print Bureau.

121. During the year the Finger Print Bureau at Phillaur received for search 30,503 references, of which 5,883, or 19·3 per cent., were traced. The corresponding figures for 1918 were 27,469 and 5,332 or 19·5 per cent. The number of finger impression slips on record at the end of the year was 274,714, or 13,528 more than those at the end of 1918.

Internal economy.

122. The scheme for the replacement of enrolled police clerks in the offices of all Deputy Inspectors-General (including the Criminal Investigation Department) and the Railway Police by civilian clerks, and the amalgamation of these establishments with the clerical establishment of the Central Police Office was carried into effect at the close of the year, and promises to fulfil the hopes of increased efficiency based upon it.

Another reform, combining economy and increased efficiency, introduced during the year was the abolition of camel orderly sowars in all districts and their replacement by bicycle orderlies.

Among the proposals made by the Inspector-General for improving the conditions of service in the Punjab Police, those for an increase in pay, various duty allowances for Upper Subordinates, duty allowances for Lance Head Constables, and house rent allowances for Constables have been sanctioned by Government.

Rural Police.

123. Ten zaildars, 278 lambardars, and 178 chowkidars were punished for neglect of their duties in connection with the criminal administration, but the activities of the Rural Police have been of much assistance to the regular force.

CRIMINAL TRIBES.

General.

124. The year 1919 saw a further advance in developing the existing settlements. More men of the wandering as well as the settled criminal tribes were brought into the settlements to be subjected to stricter watch and discipline than is possible in the districts. These tribes were mostly Sansis of Rohtak, Gujranwala and Gujrat, Biloches of Karnal and Jhang, Dhinwars of Gurgaon, Harnis of Ludhiana, Chhemars of Gujrat and Shahpur, and Bangalis of Ambala and Jullundur. New settlements, both industrial and agricultural, were initiated and efforts made generally to improve the conditions of labour and health in all the settlements. Experience has shown that the sudden change from a free open-air life to the restrictions which detention in the industrial settlements necessarily entails at first affects the health of the criminal tribes generally and of the wandering tribes particularly : and the effects are naturally worse in the congested and ill-ventilated atmosphere of factory settlements. Insanitary habits which cannot be reformed with the sudden change of environment are still more responsible for deterioration in the initial stages. But as habits improve, and the tribesmen adapt themselves to systematic work and settlement life, their general condition shows marked improvement.

Number on registers.

125. Fresh registrations were comparatively few ; and owing to cancellations, deaths, and transfers to settlements the total number of registered male adults outside settlements fell from 31,473 to 26,939 at the end of the year 1919. The population within the settlements rose from 2,223 male adults, with a total population of 5,901 souls at the end of the year 1918, to 3,560 male adults, with a total population of 8,708 souls.

Revision of classification.

126. With a view to adapting the treatment of each individual to the degree of his criminality, revision of the classification of the registered members of the criminal tribes of the Province has been taken in hand, and should result in the total exemption of over 50 per cent. and relaxation of the restrictions on another 10 per cent. of the total population. The rest will remain subject to the full restrictions of Section 12, the worst characters being gradually removed to the Reformatory or Industrial Settlements.

Results.

127. The most noticeable results of the enforcement of Act III of 1911 on criminal tribesmen still outside the settlements have been the ostensible adoption by the settled criminal tribesmen (whose main concern was begging and pilfering) of some sort of occupation and the settlement of the nomads, who are beginning to give up their vagrant habits. Transfers to settlements have had a reformatory as well as a deterrent effect, and Pakhiwaras and Baurias of the settled tribes and Bhedkuts and Kuchbands of the wandering tribes are showing marked improvement.

Education.

128. Considerable success has been achieved through these industrial settlements in breaking-in to systematic occupation some of the most hardened criminals to whom work in any form was galling. But in order permanently to divert the younger generation from their hereditary pursuits and qualify them for earning an honest livelihood it will be necessary to establish technical schools under Section 17, Act III of 1911, and initiate such industries in the settlements as weaving, carpentry, smithy, tailoring, shoe-making, masonry, etc.

Settlements.

129. The year opened with 16 settlements and closed with 24. The Luddan Industrial Settlement was closed, but there have been opened three industrial and six agricultural settlements in the course of the year and two industrial and two agricultural settlements since its close. Of these settlements 17 are in charge of the various philanthropic societies, some of whom are evincing a keen interest in the welfare and progress of the inmates, and the rest are under direct Government control.

Convictions.

130. Before 1917 the percentage of total convictions on the total registered male population was 10·8. It fell to 2·3 in 1917 and 1·6 in 1918. This year it has risen to 3·1. The rise is partly due to high prices and partly to gradually tightening control in the districts which has considerably enhanced the risk of detection of crimes that before the enforcement of the Act were committed with impunity.

It is fairly certain that but for the stringent control of the criminal tribes in the Province and the transfer of the more criminally-inclined to settlements, the economic

conditions prevailing throughout the year would have resulted in an increase of crimes generally and burglaries in particular far greater than that shown by the above figures.

Financial.

131. Of a total allotment of Rs. 2·14 lakhs the expenditure amounted to Rs. 1·82 lakhs, of which Rs. ·48 lakhs was initial and the rest recurring. The Amritsar factory and the lease of unoccupied lands in the Lower Bari Doab Canal Colony yielded an income of over Rs. ¼ lakh.

Co-operation of Native States.

132. All the Native States adjoining the Punjab are co-operating in the control and restriction of the criminal tribes of the Province, and most of them are adopting effective measures for the supervision and reformation of tribes belonging to their states. The Patiala Durbar is arranging to open two criminal tribes settlements, for the inauguration of which the services of a trained Superintendent have been temporarily lent by Government.

Recruiting for the Army.

133. The zeal of the criminal tribes for enlistment in the Indian Army has not ended with the war, in the course of which over two thousand were recruited as combatants and non-combatants. Some of these have since been discharged; but during 1919 no less than 392 enlisted, including 143 combatants, of which 85 were Baurias and 31 Bar Tharanas. The Baurias, who had enlisted in the 2/35th Sikhs, have done particularly well.

Chemical Examiner.

General.

134. The number of cases investigated by the Chemical Examiner further decreased from 1,297 in the previous year to 1,076 in 1919. The decrease was in analytical work, and was chiefly due to the small number of articles sent for examination by the Military Department, who now use their own laboratories for this purpose almost exclusively.

Medico-legal cases.

135. On the other hand, the number of medico-legal cases rose from 701 to 799, of which 407 were human-poisoning cases. Opium continued to be the most common form of poison employed, being found in 38·01 per cent. of the detected cases

as against 26·37 due to arsenic. In animal-poisoning arsenic was, as usual, most commonly employed.

20.—Criminal Justice.

General.

136. The number of offences reported during the year was 189,762, as compared with 164,512 in the previous year, an increase of over 15 per cent. Even so, crime is much less than before the war; for in 1914 204,803 cases were reported. This increase, which is shared by almost all districts, is ascribed to—

(1) high prices and scarcity of food and fodder;
(2) reaction from war conditions;
(3) return of bad characters from abroad; and
(4) unrest caused by the disturbances in the spring of 1919, which stimulated the activities of the criminally inclined.

The number of true cases was 118,184, or 63 per cent. of the total number reported, the same percentage as was recorded last year.

Cases brought to trial.

137. The number of cases brought to trial, *i.e.*, true cases less those dealt with under Sections 247 and 259 of the Criminal Procedure Code, was 112,365, involving 264,305 persons as against 98,008 cases and 228,061 persons in the preceding year.

Disposal of cases.

138. The criminal cases disposed of during the year numbered 184,566 as compared with 157,530 in the previous year.

Of the total persons brought to trial 182,012 or 68·9 per cent. were acquitted or discharged, of whom 85,997 or 47·24 per cent. were discharged in consequence of the non-appearance of the complainant or the withdrawal of the complaint.

Persons brought to trial and convicted under the Indian Penal Code.

139. Under the Indian Penal Code reported offences have risen from 113,771 to 131,791, and those admitted to have occurred, including offences reported during (and pending from) the previous year from 68,203 to 79,218. Of 167,495 persons brought to trial under the Indian Penal Code 24,341 or 14·53 per cent. were convicted. Of 26,761 persons brought to trial under the Code whose cases were prosecuted

by the Police 15,153 or 62·3 per cent. were convicted, but of the 140,734 persons tried on private complaints only 9,188 or 6·5 per cent. were convicted.

Serious forms of crime.

140. The number of offences affecting life reported during the year and remaining pending from the previous year was the same as last year, *viz.*, 1,382. Of these 988 were brought to trial, 481 being cases of murder or of dacoity with murder, 107 cases of attempted murder, and 220 cases of culpable homicide.

Murders.

141. The number of persons tried for murder (Sections 302 and 396, Indian Penal Code) was 1,084, of whom 434 were convicted. In all 210 death sentences were pronounced by Sessions Judges subject to confirmation by the High Court.

Of the persons whose cases came before the High Court for confirmation of the death sentences 69 per cent. obtained no reduction of sentence, 8 per cent. were transported for life, 5 per cent. were convicted of lesser offences than murder, and 17 per cent. were acquitted. (In one per cent. of cases appeals abated owing to death.) The High Court passed six death sentences by way of enhancement of the sentences of Lower Courts.

The Lieutenant-Governor commuted the death sentence of six convicts to transportation for life and that of one convict to three years' rigorous imprisonment. The Governor-General in Council commuted the death sentence of seven convicts to transportation for life.

Matrimonial cases.

142. Matrimonial offences have risen from 7,417 to 9,820. The most noticeable increase in such cases occurred in the districts of Ferozepore (467) and Multan (396). Last year a decline was attributed to the popularization of the idea that the worst type of offender is the person who commits an offence against a man on active service, and to the extension of the marriage registration system. From the experience of the year under review it would seem that marriage registration has had no effect on the figures, and that possibly more scandals came to light because more men returned from the army. The succeeding year with its return to more normal conditions should afford more reliable data for forming a judgment.

Punishments.

143. The following table shows the punishments inflicted in 1919 :—

Number of Persons sentenced to				
Death.	Transportation.	Imprisonment.	Fine.	Whipping.
150	181	16,267	36,863	763

Habitual Offenders' Act.

144. During the year 673 offences were reported under the Habitual Offenders' Act, 658 cases with 659 persons being brought to trial. Movements were restricted in 603 cases involving 604 persons.

Miscellaneous.

145. In view of the volume of cognizable crime in the Punjab and of the reluctance of witnesses to come forward the scale of fee prescribed for the two lowest-paid classes of witnesses in criminal cases launched by Government has now been raised from six and four annas to nine and six annas respectively. On the motion of Government rules have been framed for the employment, at Government expense, in the High Court of counsel for the defence of paupers accused of offences punishable with death and certain legal practitioners have been selected for this purpose. These rules came into operation shortly after the close of the year.

21.—Prisons.

Institutions.

146. No changes were effected in the number or constitution of the jails in the Punjab during the year under report. With the cessation of work for the Army the Borstal Camp Jail at Dhariwal was closed; but several lads stayed on as free labourers at the local mills. The Khewra Camp Jail has continued to do good work at the Salt Mines, and the question of building a permanent jail at that station is under consideration, as is also the construction of a fifth Central Jail at Jullundur and of a specially-equipped jail for tuberculosis prisoners at Madhopur.

Recruiting for jail labour in Porter Corps for service in Mesopotamia was, of course, discontinued, but labour has been supplied to the arsenals at Ferozepore and Rawalpindi and to the grass farm at the former station.

Accommodation.

147. The total accommodation was the same as reported last year, *viz.*, 14,687.

Admissions.

148. The number of admissions during the year (19,236) shows an increase of 8,385 or 21·4 per cent. on the previous year's figures. This result is mainly due to the disturbances of April and consequent convictions in Martial Law Courts.

The number of prisoners received by transfer from jails outside the Province (chiefly from the North-West Frontier Province) was 877 against 1,390 in 1918.

Releases by order of Government.

149. Five male prisoners and one female prisoner were ordered to be released on medical grounds and 1,774 for other reasons. The number of releases ordered by Government was as high as 1,780 owing to Peace Day celebrations and the amnesty granted under the Royal Proclamation in December in connection with the April disturbances.

Juveniles and juvenile adults.

150. The number of children under thirteen years of age convicted and sent to jail rose from 47 in 1918 to 62 (including three females). A new hospital and school buildings were added to the Borstal Institution, Lahore, and a Pushtu teacher engaged for the benefit of the Pathans who form a large portion of this Institution's population. Steps are being taken to acquire land for an educational farm for the instruction in modern methods of agriculture and elementary veterinary work of the large number of zamindar boys detained. Three inmates were conditionally released during the year, and 25 others will be similarly released shortly for work in the North-Western Railway Workshops at Moghalpura. Ambulance and first-aid work has been continued with good results, 87 boys being granted certificates for having passed an examination in this work.

Escapes.

151. Of the thirteen escapes only one prisoner escaped from inside the jail. The other escapes took place from extra-mural gangs

including two from Dhariwal Camp Jail and four from military custody whilst at work in the arsenal at Rawalpindi.

Staff.

152. One jailor retired during the year. Enlistment for the warder guard has not been satisfactory although, with the cessation of hostilities, a small influx of recruits began. The low pay offered is no longer attractive.

Discipline.

153. The number of offences was 14,851 against 16,689 in 1918. Thirty-four cases were referred to Judicial Courts, of which 24 related to escapes. While offences relating to work declined it is unsatisfactory to find recorded an increase in offences relating to possession of prohibited articles. Corporal punishments inflicted decreased from 27 in 1918 to 11 in 1919.

Expenditure.

154. The expenditure on guarding and maintenance of prisoners increased from Rs. 14·42 lakhs to 17·14 lakhs, partly by reason of the rise in jail population. The cost per head, however, also advanced from Rs. 102-7-2 to Rs. 113-9-6 owing to the high prices of foodstuffs. The expenditure under establishment increased from Rs. 3·90 lakhs to Rs. 4·42 lakhs, and on buildings from Rs. 1·20 lakhs to Rs. 1·42 lakhs.

Industries.

155. Compared with the previous year the daily average number of convicts sentenced to labour increased from 12,144 to 12,860, and the total cash profits from Rs. 2·83 lakhs to Rs. 4·02 lakhs—an advance which would have been even more substantial but for a decline of over Rs. 1 lakh in the receipts from miscellaneous industries and carpet-making in the Lahore Central Jail. The cash earning per head of those sentenced to labour increased from Rs. 23¼ to Rs. 31¼.

Health.

156. The admissions to hospital decreased by over 3,000, the daily average sick from 698 to 349 and deaths from 857 to 324. The decline in the figures is attributable to the absence of influenza.

The appearance of cholera in the Montgomery Central Jail was marked by four cases with two deaths. There was a decided improvement in the dysentery returns; but malaria admissions exceeded last year's figures by 500. While admissions for tuberculosis rose by 22 to 124, mortality declined from 55 to 42. A very satisfactory decrease in pneumonia

cases is reported, admissions and deaths falling to 249 and 63, respectively. One case of plague occurred in the family of a member of the staff at Rawalpindi District Jail.

22.—Civil Justice.

Institutions.

157. The number of original civil suits instituted in all Courts was 189,109 against 174,408 in the preceding year, the increase including an excess of 10,229 in money suits.

General causes of increase.

158. This expansion, which is by no means unexpected, may be attributed to the termination of the war, to comparatively good harvests, and to the fact that the figures for the year 1918 were exceptionally low, because of the war and the prevalence of influenza.

Suits by bankers and shop-keepers.

159. The total number of suits for money or movable property brought by bankers and shopkeepers against agriculturists rose from 63,300 to 70,325. The increase in the Attock District is reported to be directly traceable to the numerous enlistments from among the agricultural population in the Army. As the sepoys sent or brought home large sums of money creditors hastened to sue to recover their debts. Moreover, it was necessary to file suits in view of the possibility that the debtors might not return to renew their bonds or acknowledgments in the money-lenders' books. The same reasons, doubtless, apply to other good recruiting districts.

Suits for pre-emption.

160. The number of suits to establish a right of pre-emption rose from 4,095 to 4,872, showing an increase of about 19 per cent. against a decrease of 512 in the previous year. Generally, it appears that with increasing prosperity the peasant loses no chance of acquiring more land; but there are exceptions. Thus in Ferozepore, though the number of registered sales increased by over sixty per cent., suits for pre-emption fell from 303 to 241.

Guardians and Wards Act.

161. Applications for certificates of guardianship of minors or of administration of their property under Act VIII of 1890 rose by 461 to 2,337—an increase due to last year's influenza epidemic. Many children lost their parents, and guardians had to be appointed to safeguard the interests of the

estate. Courts have now been authorised to appoint Official Receivers (with their consent) to be guardians when the adoption of that course is in the minors' interests. Remuneration for such Official Receivers appointed as guardians is fixed at two per cent. on all lease money collected by them.

The accounts relating to minors at Jullundur were reported to be in some confusion, and arrangements were made for a check by the Local Fund Audit Department. The Judges are framing rules for the better maintenance of such accounts and for their periodical audit.

Insolvency Act.

162. There was a marked decrease in the number of applications for a declaration of insolvency. The orders of the High Court, requiring petitioners in insolvency to deposit a fee of Rs. 20 to Rs. 50 at the time of presenting their petitions to cover the cost of issue of the necessary notices, appear to be partly responsible for the welcome decline in the number of these applications. The more frequent resort to the provisions of Section 13 (1) of the Act has also assisted the decline.

Official Receivers in Insolvency.

163. New rules and forms of registers for the upkeep of the accounts of Official Receivers have been introduced. On the recommendation of the Judges, Government agreed to a proposal that of the 5 per cent. payable to Official Receivers as remuneration, 3 per cent. should be payable on the realization, and 2 per cent. on the distribution, of the assets of insolvents' estates.

Value of suits.

164. The value of suits instituted rose from Rs. 390·5 lakhs to Rs. 490·66 and the average value from Rs. 224 to 260.

Disposal and average duration of suits.

165. There were 239,145 regular suits before the Courts, of which 193,490 were disposed of. The average duration of contested suits was 88 days in the year under review and of uncontested suits 47 days. The average duration for all contested causes in the courts of Munsifs was 82 days against 85 days in the previous year. The decline would have been still greater but for the disturbances of April 1919, which for some time brought work to a standstill.

Execution.

166. The total amount realised in execution amounts to Rs. 69·92 lakhs as against Rs. 62·55 lakhs last year. The percentage of realisations was 24 compared with 26 in the previous year. It was highest in Amritsar and lowest in Kangra. In the Gurdaspur District awards in favour of Co-operative Banks which are enforceable as decrees are now executed by special bailiffs appointed for the purpose and paid by the Banks. The District Judge reports that the experiment has proved successful, and that of late no complaints of delay have been made by the Bank authorities.

Average duration of appeals.

167. The average duration of appeals was 127 days as against 109 days in the previous year; the apparent retrogression being due to the hearing of a number of appeals pending since 1915 on account of the war.

High Court appeals.

168. It takes about three years for a first or second appeal to come up for hearing by a Division Bench of the High Court. This matter is engaging the serious attention of the Hon'ble Judges. It is true that the disposal of first appeals—by far the heaviest class of cases—kept pace with institution, but the number of first, second, and Letters Patent appeals pending is high, *viz.*, 2,192.

Accessibility of revenue records.

169. Generally good reports have been received in regard to the system by which special Kanungos prepare excerpts from the revenue records on the application of litigants and, in a few districts, on the application of other persons interested in titles in land.

23.—Registration.

General business.

170. The noticeable feature of the triennial report is the increase of 5 per cent. in number and 34 per cent. in the value of compulsory registrations of immovable property as compared with the figures of the previous three years. Instruments of sale show an increase of 18 per cent. in number and as much as 84 per cent. in value. The steady even advance in their numbers year by year was disturbed in 1919 by a sudden leap from 30,000 to 40,000. On the other hand, mortgages compulsorily registered, show a decrease of 2 per cent. in number though their value increased by 6 per cent.

The increase in the number of compulsory registrations is largely accounted for by the great supply of available capital built up by the agricultural and trading classes out of war profits and high prices. The growth of capital was not accompanied by a commensurate expansion of commercial and industrial activity, with the result that the purchase of land attracted attention as the easiest field for investment. The value of both agricultural and town lands appreciated enormously, and the latter, as an object of speculation, often changed hands four or five times in the course of the year. The growing tendencies on the part of the wealthier trading classes to flock into towns for business purposes and of the well-to-do urban classes to build residential houses on the outskirts of towns assist the incremental process, which is further influenced by frequent sales of plots in the suburbs required to meet the extension of industrial enterprise.

The number of optional registrations has been steadily dwindling, owing partly to persistent rise in the value of land and partly to the stronger public confidence in revenue mutation proceedings

The Punjab Alienation of Land Act.

171. The general familiarity with the provisions of the Punjab Alienation of Land Act is testified to by the paucity of cases in which registration was refused on account of contraventions of the Act. Only eight cases came to light in which illegal deeds had been actually registered, and only one case of mortgage disguised as lease was detected.

Income and Expenditure.

172. The income of the Department in 1919 was Rs. 5·23 lakhs and its expenditure Rs. 1·72 lakhs. The total income in the triennium exceeded that of the preceding triennium by Rs. 1·88 lakhs or 17 per cent. Under registration fees, which are the principal item of income, there was an increase of 17 per cent. owing to an advance in the volume of business and the value of the property affected.

The total expenditure of the triennium amounts to Rs. 4·58 lakhs, or nearly 8 per cent. more in the preceding three years.

Establishment.

173. The work of Sub-Registrars is generally satisfactory, and early in the year the pay and prospects of the registration clerks were con-

siderably improved. It is unfortunate that the number of inspections of Sub-Registrars' offices by Registrars is, doubtless, under the pressure of other duties, decreasing year by year.

23-A—Legal affairs of Government in the year 1919.

General. 174. The number of references for opinion disposed by the Legal Remembrancer was 918 as compared with 956 in 1918 and 955 in 1917.

Original suits. 175. The Secretary of State was plaintiff in 13 original suits during the year. Of these 4 were decided in favour of, and 3 against, Government; whilst 6 remained pending at the close of the year. Of the 7 cases decided, 1 was for declaration of rights in land, 1 under section 21-A of the Punjab Land Alienation Act, 1 for ejectment from land, and 4 for recovery of money. The total amount involved was Rs. 74,842.

The Secretary of State was defendant in 67 original actions, including land acquisition references. Of the 12 land acquisition cases, 4 were decided and 8 remained pending. The Collector's award was upheld in all of them. Of the other 55 civil suits, 30 were decided in favour of, and 7 against, Government; 2 were compromised and 2 withdrawn; while 14 remained pending at the close of the year.

The total amount involved was on account of—

	Rs.
(*a*) Land Acquisition references ...	2,64,765
(*b*) Other cases	91,927
TOTAL ...	3,56,692

In class (*b*) above the total amount claimed in decided cases was Rs. 53,399, out of which only the sum of Rs. 4,212 (including costs) was decreed against Government; whilst Rs. 1,661 was awarded to Government on account of costs in cases in which the plaintiffs were unsuccessful.

Appeals.

176. The Secretary of State was appellant in 8 and respondent in 21 appeals. Of these 11 were decided in favour of, and 9 against, Government, the rest were pending at the close of the year.

Criminal Courts.

177. Government Law officers appeared in two original criminal trials in the High Court. Of these one was decided in favour of, and one against, Government. Of 840 criminal appeals in the High Court, 693 were decided in favour of, and 147 against, the Crown.

The Crown was also successful in 172 out of 235 applications for revision, 63 being decided against it. There were 14 miscellaneous cases : 8 were decided in favour of, and 6 against, Government.

24.—District and Local Boards.

General.

178. The event of outstanding importance during the year under report has been the re-constitution of all the district boards in the province and the institution of new electoral rules. In accordance with these rules a general election under the new constitution was due in February 1920 in all districts in which the elective system is in force ; but, unfortunately, owing to delays, some elections had to be postponed to the following year.

Other events of importance are the creation of the Sheikhupura District Board in the new district (which was constituted in November 1919) ; the introduction of the elective element in the District Board of Lyallpur and the abolition of local boards in the Kangra District.

Elections.

179. The total number of elective vacancies open for competition during the year was 467 ; and although it is not possible to give accurate figures of the contests which were actually held, nor of the percentage of voters throughout the Province who went to the poll, it appears that the proportion (which was about 1 in 5) differed widely from that in previous years. The results do not at present indicate a greatly increased interest in local self-government or in the elective system ; but this interest should be stimulated by action which it is proposed to take towards the further reduction of the official element on the boards, the appointment of non-official chairmen and the grant to district boards of wider powers of

taxation. In the districts in which the elective system is not yet in force the nominations are now made with a view to representation of specific areas.

Working of the District Boards.

180. The members are reported to have evinced increasing interest in the deliberation of the boards; but an almost universal complaint is still made of their reluctance to undertake executive duties and of the breakdown of all attempts to entrust them with such. Amritsar is an exception in this respect and the Beas Agricultural Farm has been put under the management of one member with good promise of success.

Finance.

181. The continued rise in prices of material and labour, the increasing demand for education and communications, and the necessity of raising the salaries of district board employees have added largely to the expenses of district boards, most of which, as reported last year, show anxiety for their future position in view of the inelasticity of their revenues. All boards have evidently been concerned to devise new means of adding to their income. The local rate has been raised to its maximum limit in Karnal, and a status tax has been sanctioned in Amritsar, Dera Ghazi Khan and Muzaffargarh; other districts are contemplating the imposition of this tax or a similar tax on professions. A general difficulty in the matter of finance is the continued opposition by members of boards to any increase in direct taxation, the invariable resource in case of lack of funds being an appeal to Government for a grant.

Government has now delegated to all district boards the power to fix the proportion which the local rate shall bear to the annual value of land, but as the maximum rate has already been imposed by all, except three boards, this authorisation will not add appreciably to their resources.

Income.

182. The gross income of district boards, which showed an increase of Rs. 11½ lakhs during the previous year, rose by another 12¾ lakhs in the year under report, amounting to Rs. 107·69 lakhs or double the gross income of the year 1911-12. The local rate accounted for two lakhs of this increase, Rohtak,

Gurgaon, Gujranwala and Sheikhupura each gaining about Rs. ½ lakh under this head, while Gujrat and Multan lost respectively about Rs. 27,000 and Rs. 30,000. Over a lakh represents the contribution to the new district of Sheikhupura from the balance of the Gujranwala and the other boards concerned: and most of the remainder is composed of Government grants under various heads.

Income under the head Medical totalled Rs. 1·80 lakhs, an increase of Rs. 45,000. Hospital receipts rose by Rs. 10,000 to Rs. 23,934, but of this figure no less than Rs. 22,415 represents the amount realised in the two districts of Ferozepore and Muzaffargarh. Government gave increased grants, amounting to Rs. 87,914 as against Rs. 33,494 in 1918-19. Contributions from other sources decreased by Rs. 10,000. Receipts under education increased by over Rs. 4½ lakhs, the bulk of this being Government grants (3¼ lakhs), though school fees accounted for another Rs. 60,000.

Several boards remitted the local rate in villages in which land revenue had been remitted by Government in recognition of war services.

Expenditure.

183. The total expenditure of district boards was 98·46 lakhs, an increase of 17 lakhs over 1918-19.

Charges under medical were Rs. 10·21 lakhs, exceeding those of the previous year by more than 1½ lakhs; the greater part of this increase was on account of the opening of the new dispensaries. Despite the absence of any widespread and virulent epidemic in the course of the year the vigorous preventive measures undertaken by most boards resulted in there being a slight increase over last year's figures under the sub-head "Plague charges." The demand for new dispensaries varies in different districts, but the rural population are certainly beginning to set more value upon them. Much, however, depends on the popularity of the Sub-Assistant Surgeon in charge. The system of taking fees from the well-to-do is nearly everywhere reported as unpopular, both among the public and the Sub-Assistant Surgeons themselves, and it has been suggested that money could more easily be raised by periodically asking for public subscriptions to particular

dispensaries. The whole question has been recently under the consideration of Government.

Expenditure under the head "Education" increased by Rs. 1½ lakhs to Rs. 35·30 lakhs and under Civil Works by a similar amount. Under "Scientific and other Minor Departments" nearly Rs. ½ lakh more was spent on bulls and stallions and Rs. 20,000 on cattle fairs. The total expenditure under this head rose to Rs. 6·40 lakhs as against Rs. 5 lakhs in the previous year.

The increased demand for education is naturally reflected in the greatly increased expenditure under this head. In most cases, in fact, expenditure on education exceeded what the boards could afford. The five years' programme has been adopted by most boards and carried out with varying degrees of thoroughness. The general apathy in regard to female education is unchanged. Industrial schools are reported to be working well. It has been impossible so far to replace the school burnt at Gujranwala in the riots of April 1919.

Miscellaneous.

184. More boards are devoting attention to the opening of demonstration farms, but no farm has yet established itself as a profitable concern, and, until such is the case, the purpose of these farms is not likely to be effectively fulfilled.

The number of bulls supplied to district boards by the Government Cattle Farm at Hissar rose by 11 to 197. Interest in cattle-breeding as represented by a demand for breed bulls is curiously local. In the majority of districts the attitude of the zamindars is one of complete apathy, and they refuse to keep the bulls unless handsomely compensated; in other districts there is a keen demand and zamindars are willing to pay one-quarter to one-half the cost of the animals.

Attention to sheep-breeding, which was formerly confined to the Mianwali District (where it is still maintained), has been extended to Shahpur, in which district 22 cross-bred rams have been purchased and more are wanted, and to the submontane tracts of Ambala, where the district board assisted private owners in the purchase of 17 Merino rams.

A successful experiment in sericulture in Shahpur has roused much interest in the neighbourhood.

Arboriculture.

185. The total receipts on account of sale of trees were Rs. 3·65 lakhs or about Rs. 33,000 less than in the previous year, while the expenses under arboriculture charges have risen by Rs. 65,000 to Rs. 3·41 lakhs. The varying nature of soils and climate account for the widely differing results from local arboriculture throughout the province; but in several districts the figures show very large fluctuations from year to year which are a sure index of a defective system. Further, all boards do not realise the necessity of retaining an efficient whole-time staff to manage their arboricultural operations.

Sanitation.

186. Regulations have been framed by some boards on the subject of sanitation in villages, but they have been very sparsely enforced and for the most part remain a dead letter. Wider possibilities of improvement in the public health of rural areas are to be found in the appointment of District Health Officers, who will relieve Civil Surgeons of all public health duties. In January of the year under report Government decided to appoint District Health Officers in three selected districts, *viz.*, Jullundur and Rohtak, both advanced districts where the appointment would be likely to meet with public approval, and Gurgaon, a particularly unhealthy district, where the need for special attention to sanitation is marked. In these districts Government undertakes to pay for five years the cost of the District Health Officers' pay and establishment and the pay of the Sub-Assistant Surgeons required for new dispensaries. In any other district, if a District Health Officer be appointed, Government will pay his salary for five years. District Health Officers have now taken over their duties in Jullundur and Gurgaon of the three selected districts and in Kangra among other districts.

Benefactions.

187. Examples of public spirit combined with private munificence are to be found in the opening by Sardar Jogindar Singh of Aira of a dispensary at Iqbalnagar, in the Montgomery District, at a cost of Rs. 20,000 which he has handed over to the district board with the offer of an annual contribution of Rs. 360 for its upkeep; in the establishment by Rai Sahib Lala Banarsi Das of a college up to the F. A. standard at Ambala, and in a generous contribution to the Karnal District Board for the purpose of repairing the water-courses leading to the sacred tank at Kurukshetra; and, lastly, in the institution by Dr. Ghulam

Qadir Khan at his own cost of a well-equipped veterinary dispensary on approved lines at Qadirpur (in Montgomery).

25.—Municipal Administration.

General.

188. The number of municipalities remained at 101; that of notified areas increased to 105; three new areas being created, namely, Pindi Baha-ud-Din, Ambala Civil Station and Sheikhupura; while that of Dharmsala was amalgamated with the municipality.

Elections.

189. Thanesar was the only municipality in which the elective system was newly introduced. Here four out of six vacancies were contested, and 64 per cent. of voters went to the poll. Full municipal elections under the new rules were held at Rohtak, Sonepat, Palwal and Firozpur-Jhirka in the Ambala Division and at Montgomery in the Multan Division. There was no improvement in the conduct of the elections at Rohtak where the contests were keen, but marked by the usual corruption. One successful candidate was convicted of malpractices and forbidden to stand for any municipal election for the next ten years. In Montgomery four seats out of eight were contested, but there was no keenness. Ten seats fell vacant in the Hoshiarpur Municipality, and of these eight were contested with spirit. Much activity is reported in the preparation of the voters' lists in Rawalpindi, but bribery and corruption, unfortunately, prevailed on an extensive scale.

The disturbances of April 1919 prevented elections being held in Gujranwala, and the vacancies were temporarily filled by nomination. The elections will be held in due form in the present year.

Working of the Committees.

190. The general attitude of members in regard to their responsibilities shows, on the whole, an improvement, and there are few committees which are reported as conspicuously lacking in public spirit, or as swayed entirely by personal interest and party faction; but these latter considerations still have a preponderating influence in Rohtak, Nurmahal, Wazirabad, Sangla and Jhang. In most other committees there are distinct signs of an awakening sense of civic responsibility. Non-official presidents have been elected in place of officials in the Karnal, Hoshiarpur, Jullundur and Gurdaspur

municipalities and this policy of the withdrawal of official control has undoubtedly increased interest in municipal affairs and the desire among citizens generally to become members of committees. In the Ambala Division there are still few real workers, most being content to depend on official suggestion. One reason for this is that the complicated Account Code and departmental rules present serious obstacles to the poorly-educated majority of members. The Murree Committee has evinced a real sense of responsibility and an independent desire for improvement, and the smaller committee of Gojra is also held up as a model for its energy and public spirit.

Sub-Committees.

191. The manner in which municipal committees have carried out their statutory functions is generally reported to be satisfactory. The work of sub-committees shows in many cases a marked improvement, the Finance and Education sub-committees in Lahore and the Finance, Works and Health sub-committees in Amritsar being conspicuous in this respect. There is a tendency, however, on the part of some sub-committees, notably in Dera Ghazi Khan, to delegate their functions unduly to individual members. Thanesar and Shahabad committees appear to have little control over their executive and clerical establishment,—a fact which is partly attributed to the employment of honorary secretaries : nor does Jhelum appear to have made any improvement in this respect.

Social problems.

192. Many committees are making conscientious efforts to deal with overcrowding. Lahore has taken steps to acquire land and house property in five localities with a view to relieve congestion, and the Rohtak Committee have also proposed to acquire a plot of land with the same object. Similar measures are being taken by Ambala, Jagadhri, Sadhaura, Gurgaon and Shahpur. Lahore and Amritsar both submitted schemes for Improvement Trusts, which have been held over pending consideration by Government of the need of legislation.

Miscellaneous.

193. Medical relief is in most places severely limited by lack of funds, but a remarkable increase in attention to medical institutions is reported from Jhang, where expenditure on this object has risen from Rs. 15,000 to 1½ lakhs. Among the innovations is the appointment of a Lady Assistant Surgeon. The infant mortality in Rawalpindi during the year was no less than 284 per

thousand, and in Lahore also was about 230,—figures that tell their own tale of the conditions in which children and mothers are compelled to live and the crying need for greater medical attention. Education has received a full share of attention, particularly in Lahore and Multan. The latter committee has arranged to introduce free Primary education in schools maintained by itself, and has also been the first municipality in the Province to obtain Government sanction to a complete scheme of compulsory education.

194. A number of municipalities in the Province are taking steps to carry out comprehensive schemes of drainage and water-supply, most of which have been long held up under conditions produced by the war. The question of applying the provisions of the Adulteration of Food Act has also been raised by several committees.

The disturbances of April 1919, and the enforcement of Martial Law in the following months, naturally threw out of gear the municipal machinery in the towns most affected, Lahore, Amritsar, and Gujranwala. Amritsar, as mentioned above, suffered the loss of its Municipal office and records.

195. Fires caused some destruction, notably in Sialkot, where the Deputy Commissioner's English office was destroyed in November 1919, and in Rawalpindi, where no less than five fires occurred, one of which resulted in damage to the extent of about Rs. 60,000, while another caused the loss of two lives. There was a somewhat severe outbreak of plague at Multan, which spread to Muzaffargarh, but prompt measures were taken and relief works were carried out by both the municipal committee and the local Sewa Samiti.

Cheap shops.

196. In consequence of the hardships caused to the poorer classes by the high prices of cloth, fuel, and other necessaries, several committees opened and managed shops for the retail sale of standard cloth, firewood and salt, Multan spending nearly Rs. 15,000 on these objects and Rawalpindi some Rs. 25,000.

Taxation.

197. The year may be said to have been remarkable for the movement in favour of the establishment of terminal taxation in place of octroi. The total receipts from taxation during the

year amounted to Rs. 59·18 lakhs, but a complete comparison cannot be made with last year's figures owing to the destruction of the Amritsar municipal records for that period. Excluding Amritsar, the figures are Rs. 52·80 lakhs, as against Rs. 49·11 lakhs. The incidence per head of population rose from Rs. 3-5-6 to Rs. 3-10-3 ; octroi receipts amounted to Rs. 53·14 lakhs, an increase of Rs. 10·16 lakhs ; while realisations from terminal tax totalled just under half a lakh, which is less than a moiety of last year's income. The marked increase in octroi receipts is everywhere attributed to the continued rise in prices of commodities on which an *ad valorem* duty is charged, but good harvests are also advanced as a reason in some areas. The decrease of Rs. 15,443 and Rs. 7,267 which is shown in receipts from terminal tax in Fazilka and Muktsar is apparent only, being due to collections made by and in the hands of the Railway not being credited to municipal funds before the close of the year. Terminal tax in Gujranwala also yielded much less than was anticipated.

26.—Military (Indian Defence Force).

General.

198. The (one) mounted and three Infantry units of the Indian Defence Force in the Province were the 5th Punjab Light Horse and the 4th Simla Rifles ; the 3rd Punjab Rifles; and the 1/24th North-Western Railway Battalion.

5th Punjab Light Horse.

199. The strength of the Light Horse on the 1st April 1920 was 196, exclusive of 140, who had been granted commissions in the Indian Army Reserve of Officers. The Lahore troop of the Corps was mobilised for service during the disturbances of April 1919.

4th Simla Rifles.

200. The 4th Simla Rifles mustered 444 strong, exclusive of 211, who proceeded on service during the war. The present strength of the Battalion, under the new Auxiliary Force Act of 1920, shows a marked decrease, possibly due in part to the introduction of the six-years scheme (since reduced to four years).

3rd Punjab Rifles.

201. The strength of the 3rd Punjab Rifles at the close of the year was 41 Officers and 863 other ranks, the increase of 58 in other ranks being due to the return from active service of members and to transfers from other units.

In the April disturbances the detachments at Lahore, Amritsar and Murree were mobilised for actual military service from the beginning of April to the beginning of July 1919, and, in addition to assisting the regular garrison, were employed in holding certain strategical positions for the protection of Civil Lines. The Lahore Detachment was also called upon to furnish trained personnel for the armoured train of two officers and 18 other ranks as 12-pounder gunners and two officers and 20 other ranks as machine-gunners.

It is reported that from this Corps during the war 135 officers were provided for the Indian Army Reserve of Officers and 358 other ranks to His Majesty's Forces, of whom 17 officers and men died on service and 9 were wounded. In all 15 officers and men gained distinctions; and 17 officers and men were mentioned in despatches.

1-24th North-Western Railway Battalion and Indian Section of the Indian Defence Force.

202. There is no report on the Railway Battalion or on the Indian Section of the Indian Defence Force.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Agriculture.—(1) Report on the Operations of the Department of Agriculture, Punjab, for the year ending 30th June 1920.

(2) Annual Report of the Punjab Veterinray College, Civil Veterinary Department, Punjab, and Government Cattle Farm, Hissar, for the year 1919-20.

(3) Report on the Land Revenue Administration of the Punjab for the Agricultural year ending 30th September 1919.

(4) Report on the working of Co-operative Societies for the year ending 31st July 1920.

Fisheries.—Report on the Department of Fisheries, Punjab, for the year ending 31st May 1920.

Weather and Crops.—(1) Report on the Weather of the Punjab for the year 1919-20.

(2) Punjab Season and Crops Report for 1919-20.

Horticulture.—Report on the Lawrence Gardens, Lahore, for the year 1919-20.

Forests.—(1) Progress Report on Forest Administration in the Punjab for 1919-20.

(2) Progress Report on Arboriculture in the Punjab for the triennial period 1914-15 to 1916-17.

(3) Report on the Administration and Accounts of the District Boards in the Punjab for the year 1919-20.

(4) Land Revenue Report, as above.

Manufactures.—Report on the working of the Factories Act in the Punjab during the year 1919.

Trade.—(1) Report on the Internal Trade of the Punjab by rail and river for the year 1919-20.

(2) Report on the External Land Trade of the Punjab for the year 1919-20.

(3) Report on the Joint Stock Companies in the Punjab for the year 1919-20.

Public Works.—Administration Report of the Public Works Department, Punjab, Buildings and Roads Branch, for the year 1919-20.

Irrigation.—(1) Administration Report of the Public Works Department, Punjab, Irrigation Branch, for the year 1919-20.

(2) Land Revenue Report, as above.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agriculture.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

Forests.—Statistical Abstracts for British India, Volume II, Financial Statistics.

Crops.—(1) Agricultural Statistics of India, Volume I, Tables II and III.

(2) Estimate of Area and Yield of certain principal crops in India.

(3) Prices and Wages in India.

(4) Variations in Indian Price Levels.

Mines and Quarries.—(1) Statistical Abstracts for British India, Volume I, Commercial Statistics.

(2) Records of the Geological Survey of India, Volume XLVII, Part 3.

(3) Report of the Chief Inspector of Mines in India.

Manufactures.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

Trade.—(1) Inland Trade (Rail and River-borne) of India.

(2) Statistical Abstracts for British India, Volume I, Commercial Statistics.

Railways.—Administration Report on Railways in India for the year 1919-20.

Irrigation.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

27.—Agriculture.

SCIENTIFIC.

General. 203. Twelve new posts have been added to the cadre of Agricultural Assistants, which now stands at 69. The cadre of *mukaddams* has been provincialised.

The Lyallpur College.

204. The results of the College for the last seven years show a welcome increase in the number of agriculturists (in contrast to non-agriculturists) passed out. Sanction has been given to the construction of a new hostel to accommodate initially 136 and eventually 200 students.

The College has been affiliated to the Punjab University, and a Degree of B. Sc. in Agriculture is now awarded to students who successfully complete the four years' course at the College. Of the first batch of 20 students examined this year by the Punjab University, 17 were declared successful, three being placed in the First Division. The vernacular class at Lyallpur admitted 16 students; the rural economy class consisted of 18. The Teachers' Class passed out 20 teachers, who will teach Agriculture in selected Middle Schools.

The annual value of the internal scholarships awarded at the College has been raised to Rs. 6,000.

The Agricultural Adviser to the Government of India has allotted a sum, bringing in an annual interest of Rs. 70 for the award of Southern Memorial prizes. A proposal for the award of a Research Scholarship of £250 for the study of Agriculture abroad is under the consideration of the Government of India. This year's Research scholarship, tenable for two years in India, has been awarded for the study of "Rice and its Cultivation."

Private analyses for which fees are charged can now be obtained at the College.

Experiment and Research.

205. Another series of milling and baking tests of wheat were made by Mr. Milne at the Shahdara Flour Mills. The experience at the Shahdara Mills in 1919 and at the Delhi Mills in 1918 shows that it is impossible to expect mill managers to free their machinery sufficiently for an accurate quantitative test to be carried out. It appears that a Midget mill is required for tests on the Lyallpur Farm itself. The results of these and previous tests by Mr. Milne himself and by Mr. Humphries in England all show that 8-B is one of the best wheats in milling and baking qualities. Its value as a yielder has yet to be tested; 8-A, an-

other of Mr. Milne's varieties, though it has a yield on an average not less than that of Punjab 11, the standard Punjab wheat, is rather lower down in the milling and baking tests.

The Agricultural Chemist continued work on a theory of soil moisture and soil colloids, osmotic pressure in soils, nitrogen fixation, green manuring, sullage and *bara* reclamation experiment. So far no economic results have been obtained regarding *bara* reclamation, and it would be premature to expect them. The arrival of the second set of Fowler steam tackle will allow of more rapid progress in deep machine-ploughing.

Date suckers have been imported from Basra.

Sericulture.

206. Of the silk-worm seed received in good time, 100 ounces were distributed in February 1920. The results have been very encouraging. As compared with last year the yield of dry cocoons per ounce increased from an average of 3 seers to over 11 seers, and the price per maund from about Rs. 195 to Rs. 227. The number of men who took up rearing increased from 206 to 301. These results are, to no small extent, due to the appointment of a whole-time Entomologist, who has done much to rescue the silk-worm industry from the severe set-back caused by last year's failure. The Salvation Army imported no seed in the year under report, and has apparently ceased to take any active interest in the spread of sericulture. The Simla Silk School is defunct.

Entomology.

207. American cotton 4-F proved slightly more susceptible to bollworm than *desi* cotton. In the examinations made Americans had suffered more than *desis* in 14 cases, while *desis* suffered more in 9 cases ; in one instance the incidence was equal. Work is being done on life histories of the parasites of mango hopper and weevils.

Agricultural Engineering.

208. The number of wells bored during the year has increased from 349 to 360 and the percentage of success from 77·6 to 84·3. Five tube well installations are in progress, but completion is being delayed for want of pumps from England.

The Agricultural Engineer is engaged on designs for (1) a power-boring machine to suit Punjab soils ; (2) a *bhusa*-making plant, and (3) a bullock cart.

Experimental Farms.

209. Experiments continue to be carried out at Lyallpur, Gurdaspur, Sargodha and Hansi Farms. Full details can be seen in the Annual Experimental Record issued as Part II of the Annual Report.

District Work.

Implements.

210. In spite of the great increase in the prices of imported implements the number sold during the year has risen from 396 to 432. The increase in the sale of implements manufactured by the Department was more significant, the figures being—

1918-19	...	...	778
1919-20	...	...	2,380

There will certainly be a further increase, and it is time for private enterprise to attempt to meet the demand.

Progress of 4-F American cotton.

211. This cotton continued to be much in favour with zamindars in the canal colonies, and the area sown now reaches a figure of nearly half a million acres. Unfortunately the 1919 crop was much below standard in the Lower Chenab and Jhelum Colonies owing to the failure of the September rains. In the preceding months vegetative growth had been good, but formation of bolls had been delayed by rain. When this did take place suddenly and generally, it entailed a great strain on the plant which only a very good supply of water would have enabled it to meet. The result was that bolls opened badly and the lint was poor. However, the premium commanded by 4-F has been so great that zamindars are not deterred from sowing it in spite of small set-backs.

Cotton auctions.

212. Fourteen auctions were held through the Agricultural Department at which 53,512 maunds of cotton were sold, the prices varying from Rs. 18-9-0 to Rs. 23-1-0 a maund. The failure of American cotton on a large area is responsible for the decrease in the amount sold this year as compared with that sold in 1918-19.

Wheat.

213. No auctions were held by the Co-operative Department. Sowings of Punjab-11 for the last three years are :—

1917-18.	*1918-19.*	*1919-20.*
196,500 acres.	302,500 acres.	377,500 acres.

Six hundred and seventy-five acres under 8-A and 70 acres under Pusa-12 are reported to have been sown in the Lower and Upper Jhelum Canals in addition. Pusa-12 has become very popular in the Hill States, largely through the efforts of Mr. Peake of Solon.

Seed Depôts.

214. The Seed Depôt accounts show a profit of about a lakh of rupees. The allotment from wheat profits or the purchase of pure seed of cotton and wheat during 1919-20 was Rs. 5 lakhs.

Demonstration work.

215. Possession of land for demonstration farms was taken at Ludhiana and at Amritsar. A course for soldiers at Jullundur Cantonment has been started at the Jullundur Demonstration Farm, and on the suggestion of the Director of Public Instruction a course for school boys is being drawn up, the practical teaching of which will be given on the demonstration farms.

Miscellaneous.

Agricultural Associations.

216. An Agricultural Association has been formed at Rohtak. There are now eleven Agricultural Associations in the Province which do much propaganda work.

Provincial Board of Agriculture.

217. In pursuance of a resolution passed at the last meeting of the Pusa Board of Agriculture a Provincial Board of Agriculture has been formed for the Punjab under the presidency of the Financial Commissioners. Its first meeting was held at Lyallpur in January 1920.

Extensions.

218. The Research work of the Department, which is its main justification for existence, has suffered very much throughout the year from financial stringency. In particular the contemplated extension of the chemical block has been long delayed, and even if the second Agricultural Chemist, Physicist, and Bacteriologist be recruited shortly there will be no adequate laboratory accommodation for them.

Co-operative Societies.

General.

219. The Co-operative movement made marked progress during the year both in the number and quality of the societies. To meet the growing volume of work the staff was increased by two Assistant Registrars and ten Inspectors; while the prospects of these officials were improved by the decision to include Assistant Registrars in the cadre of the Provincial Civil Service and to continue to recruit them chiefly by selection from Inspectors.

The number of Societies increased by 1,709 and of members by 37,099. Working capital was Rs. 44 lakhs more than last year. A Co-operative Information Bureau was started at Amritsar and proved of considerable use to supply societies. District conferences were held in practically every district, which were well attended and proved successful in stimulating communal feeling.

Secondary Institutions.

220. Two new Central Banks, 20 Credit Unions, and 43 Supply Unions were registered. Unions of Weavers' Societies are also being tried. The central financing institutions are steadily increasing their share capital and reserve, these together representing 22 per cent. of the real working capital and thus providing ample cover. Transactions between the primary societies and other financing agencies are growing apace as is shown by the following figures :—

1916-17.	*1917-18.*	*1918-19.*	*1919-20.*
Rs.	Rs.	Rs.	Rs.
24·7 lakhs.	35·6 lakhs.	62 lakhs.	87 lakhs.

The financial stringency in June and July gave rise to some difficulty in obtaining funds for the large number of new societies, but the Jullundur District provided three lakhs in July, thus raising its total loans to other districts in the twelve months to nine lakhs. The control of the Central Banks is rapidly passing to the primary societies, whose representatives are taking an increasing part in the deliberations at general meetings.

Agricultural Societies.

221. The number of Agricultural Credit Societies increased from 5,087 to 6,614 during the year, and it is becoming clear that the highly-trained staff has acquired the confidence of

the people, who are now willing to organize themselves for definite economic ends. The number of members increased by over 30,000. Collections on account of principal and interest increased by Rs. 13·37 lakhs to Rs. 65·17 lakhs. The members now own Rs. 106 lakhs in shares, reserve and profits, and 11 lakhs in deposits. In three districts the capital owned exceeds the sum borrowed, so that financial independence is rapidly growing. Over 1,000 societies require no help from Central Banks, and in about 700 societies the members are reported to be entirely free from debts to money-lenders.

Over Rs. 67 lakhs were advanced in loans, of which the largest proportion was for purchase of cattle, thus emphasizing the great economic waste due to heavy cattle mortality. Over 15 lakhs were devoted to the re-payment of old debts; over 4 lakhs to the redemption of mortgages; and over 1¼ lakhs to the purchase of land. The committees are showing great improvement in the care with which they sanction loans and in the attention they pay to prompt recoveries. The standard of audit is being raised, and the accounts generally are much better kept than before.

New forms of Co-operation.

222. Rural supply is rapidly gaining in popularity. It is estimated that goods worth over Rs. 8 lakhs were supplied by Agricultural Societies. Special societies for the sale of cotton, wheat, etc., are being replaced by Co-operative commission shops.

Cattle insurance is making steady progress: during the year 14 new Societies were organized, bringing the total to 22. The number of cattle insured increased from 372 to 587. The committees are working well, but it is only natural that difficulty should be experienced in introducing such a novel feature into village life.

During the year an attempt was initiated to solve the problem of excessive fragmentation of holdings by starting special Co-operative Consolidation of Holdings Societies. Twenty were registered, and progress exceeded expectations. It is too early yet to offer any opinion as to whether such societies will prove popular over a wide area, but experience is being gathered that should prove of value in the effort to grapple with a serious cause of economic weakness.

Other novel features of the year have been societies to suppress unnecessary litigation by organizing a system of arbitration, societies to reclaim lands destroyed by hill torrents in Hoshiarpur, and night schools.

Co-operation and Agriculture.

223. The steady persistent efforts to stimulate amongst co-operators a more lively interest in the improvement of agriculture are beginning to bear fruit. Societies sold 1,073 Meston ploughshares, other improved implements, and several thousand maunds of seed. Seventy-seven demonstration plots have been arranged for, and two seed and demonstration farms organised. The demand for fruit trees largely exceeded the available supply.

Industrial Societies.

224. The number of Weavers' Societies increased from 38 to 49. Two Unions have been registered, and a third was formed. The Central Weavers' store had a turnover exceeding Rs. 6 lakhs. It has been transferred to Amritsar, so as to be nearer the market for yarn and cloth. Eight societies of dyers were registered during the year.

Urban Supply.

225. Urban Supply Societies, numbering 112, sold goods to the value of Rs. 5·42 lakhs to their 9,650 members. Difficulties connected with the railway militate against success, and it remains to be seen whether the Punjab townsman has the grit to persevere in face of obstacles.

General results.

226. Of Societies 53 per cent. inspected have been classified as good, as compared with 47·5 per cent. last year and 45·3 per cent. the year before. This steady improvement is largely due to a real increase in knowledge and understanding of co-operative principles and to the gradual awakening of the people to ideas of hope and progress. It is at last beginning to be realised that existing unsatisfactory conditions can be ameliorated through organised self-help.

VETERINARY AND LIVE-STOCK.

Cattle Mortality.

227. There was a comparatively high mortality from contagious disease amongst cattle, rinderpest alone accounting for 42,155 reported deaths or more than double the number of the previous year.

This phenomenon may, perhaps, be attributed to a low vitality consequent on shortage of fodder. Deaths from foot-and-mouth disease numbered 2,592 against 536 in the year 1918-19; and from hæmorrhagic septicæmia 6,319 against 5,349.

It is reported that vaccinations against hæmorrhagic septicæmia are increasing in popularity; inoculations against rinderpest had, however, to be restricted owing to the shortage of serum.

Veterinary College.

228. The staff of the College, which had been depleted during the war, was strengthened by the addition of two European Professors. Eighty-one new students were admitted to the College against 78 in the previous year. Altogether 217 students presented themselves in the various annual examinations with satisfactory results. The post-graduate class, which it was intended to re-open, could not be started owing to lack of candidates. The revised course of studies which has been approved by the Government of India demands better educational qualifications from the students since only those who have passed the Matriculation Examination or an equivalent standard will be admitted to the College and instruction will be imparted in English. The question of affiliation of the college to the Punjab University and constitution of a Veterinary faculty is under the consideration of Government. The attendance at the hospital clinic showed a slight decrease over last year owing partly to the increased expense involved in feeding and maintaining domestic animals in Lahore and partly to the increase in mechanical transport. There was, however, a large attendance at the dog hospital.

Veterinary Hospitals.

229. The number of veterinary hospitals in the Province increased by 2 and is now 131, in addition to 6 dispensaries. A sum of Rs. 48,000 has been allotted to District Boards for the construction of new, and improvement of existing, hospital buildings. The attendance of patients continues to expand, and there is scope for many more hospitals.

Cattle-breeding.

230. There are now 1,352 stud bulls, chiefly from the Government Cattle Farm, Hissar, as against only 637 six years ago. The severe

shortage of farm and dairy stock is indicated by the following figures :—

—	1914.	1920.	Decrease.
	Millions.	Millions.	Millions.
Bulls and bullocks	4·6	4·0	0·6
Cows	3·7	2·7	1·0
She-buffaloes	2·7	2·4	0·3
TOTAL ...	11·0	9·1	1·9

The scheme for subsidizing selected owners of Dhanni bulls has been put into operation, and the numbers of District Board and subsidized Dhanni bulls in the three districts of Attock, Jhelum, and Rawalpindi are respectively 12 and 21.

The Rawalpindi District Board started the scheme without any financial aid from Government, while the District Boards of Attock and Jhelum received Rs. 4,200 and 2,880, respectively, from Government wheat profits.

GOVERNMENT CATTLE FARM, HISSAR.

231. Despite a somewhat deficient rainfall the growth of grasses was on the whole up to average. In the absence of grazing from the 1st of April to August the stock was stall-fed generally with some loss of condition to the cows. Following the general rise in market prices of cattle the privileged price charged to District Boards in the Punjab for a bull was raised from Rs. 200 to Rs. 250, with effect from 1st April 1920.

The profit and loss account showed a loss of Rs. 29,766 against a profit of Rs. 11,534 in the previous year. This unfavourable result is ascribed to high prices of gram, increased expenditure on stall-feeding, the grant of various kinds of allowances to the employees, restricted sowings in 1918, and the resultant shrinkage of the oats crop.

Camel Specialist, &c.

232. The laboratory of this specialist was re-transferred from the Military Department to the Civil authorities on the 1st September 1919. Experiments as to the efficiency of tartar emetic in curing camel surra are being pursued and there are grounds for hoping for ultimate success.

The virulence of the surra trypanosome is proved by the experiments on ponies, dogs, sheep, rabbits, and guinea-pigs, all of which succumb to the disease on artificial inoculation. Buffaloes and goats are, however, found to be immune carriers. To determine the number of surra-infected camels belonging to private owners an examination of all privately-owned camels throughout the Punjab has been commenced. A fly survey was also started with the help of a Pusa expert.

Forest legislation, resulting in the closure of large areas of Rakhs to camel owners, and reclamation by the Canal Department of extensive tracts which were previously available for the breeding of camels, have caused a serious reduction in the number of camels bred.

Quinquennial Cattle Census.

233. The quinquennial cattle census was held in February 1920, and the following statement compares its results with those of the preceding census :—

Cattle.	Actual Increase or Decrease in thousands.	Increase or Decrease per cent., + or −.
1. Bulls and bullocks ..	− 630	−14
2. Cows	− 928	−25
3. Male buffaloes	− 132	−24
4. Cow „	− 195	− 7
5. Young stock	+ 805	+20
6. Sheep	− 646	−14
7. Goats	− 1,376	−31
8. Horses and ponies	− 31	− 7
9. Mules	− 4	−12
10. Donkeys	− 96	−14
11. Camels	− 76	−25
12. Ploughs	− 69	− 3
13. Carts	+ 7	+ 2

234. These figures show a very serious general decline in the numbers of stock. Apart from the diminution caused by slaughter for the greatly-increased consumption of meat, to two main causes is ascribed this noticeable falling off; *viz.*:—(1) great mortality among sheep owing to diseases and (2) decrease in the numbers of nomadic shepherds, by reason of the shrinkage of grazing areas in the Province.

Causes of decline in stock.

27-A.—Fisheries.

235. The main problems that confront the Warden may be summarized as the conservation of fish in the rivers, streams and canals which involves various licensing schemes for districts: fish breeding in, and protection of natural spawning grounds, and fish breeding in artificial farms. With the staff at his disposal the Warden was unable to devote the requisite attention to all these questions and he decided to follow up closely the subject of the licensing regulations. It was found that the promulgation of rules in certain selected districts without an accompanying explanation of their objects and adequate propaganda produced the very result it was sought to avoid, *viz.*, the hostility of local fishermen. This undesirable effect has been satisfactorily removed by a system of lectures and propaganda among the classes most interested: but it is evident that great caution must be exercised in the extension of licensing rules to new districts until a suitable staff is available to make known the beneficent objects of the regulations and dissipate misunderstanding. The changes effected by the system of licensing involves certain benefits to fishermen, notably the removal of the contractor monopolist, and if they understand what is being done there are good prospects of securing their co-operation.

Progress.

236. The fish sanctuaries, particularly those at the Dehr and Garli Khuds, have continued to thrive. The experiment of stocking the Nammal Dam in the Salt Range has been abandoned owing to the liability of the dam to complete emptying for irrigation purposes. Trout culture in Kulu continues to be satisfactory and anglers report that the fish are beginning to take fly.

Culture.

237. Expansion of the Fisheries staff is gradually taking place according to requirements.

Staff.

28.—Weather and Crops.

Period.

238. This section deals with the autumn harvest of 1919 and the spring harvest of 1920, a period extending from January 1919 (the earliest month the rainfall of which could affect the autumn harvest) up to the end of May 1920 (the latest month in which the spring harvest could be influenced).

Character of the season.

239. In January 1919 the rainfall was everywhere considerably in excess of normal. February and March were drier than usual; and except in the montane and submontane tracts the same was the case with April. The deficiency of spring rainfall did not, however, seriously affect the sowings of cotton and cane, nearly 80 per cent. of which crops are under irrigation. Moreover, cotton can be sown in some parts of the Province up to the middle of July. The monsoon appeared in the north and east about the middle of July, and penetrated the rest of the Province a week later. It gave heavy and general rain, but ceased (earlier than usual) about the middle of September. October was dry almost everywhere; and, except for light showers in parts of the Province, so was November. The result was that standing unirrigated autumn crops were considerably damaged, and the sowings of spring crops restricted. Rain which fell in December greatly benefited sugarcane and the early-sown spring crops, and led to further sowings. More beneficial rain fell in January 1920 and the first week of February, but the rest of that month and the first week of March were dry. Light to moderate rain was received in the second and third weeks of March, much improving the prospects of the spring harvest. Frost and hail-storms in February and March, however, caused damage. A generally dry April was suitable for the ripening of the crops. In brief, climatic conditions were favourable except for the maturing of the autumn and the sowings of the spring crops, although the latter, where sown late, failed in many districts.

Owing to the abundance of snow and the heavy monsoon rains river and canal supplies were plentiful.

Sown and matured areas of the year.

240. The sown and matured areas increased by 33 and 48 per cent., respectively, as compared with the preceding year, and by 1 and 5 per cent. as compared with the

normal. The percentages of the area sown on the normal area were remarkably low only in Rawalpindi and Dera Ghazi Khan, being 86 and 78, respectively.

Irrigated area of the year.

241. As might have been anticipated in the circumstances the area irrigated from wells considerably decreased; that irrigated from Government and private canals, tanks, and other sources increased.

Owing to a large expansion in unirrigated sowings the percentage of irrigated sowings on the total decreased from 56 to 45. Sixty-six per cent. of the total irrigated area was irrigated from Government canals, and the remainder from private canals and other sources.

Outturn of chief crops.

242. *Wheat.*—The area under wheat advanced by 15 per cent. from 7,684,420 to 8,812,803 acres. It was still, however, 4 per cent. below the normal. In parts of the south-east and west the winter rains were insufficient for the maturing of the crop. In other districts it was damaged by cold and hail-storms. The percentages of the actual yield per acre on the normal vary from 85 to 135 on irrigated and from 50 to 150 on unirrigated areas. According to the estimate given in the final forecast (revised in cases where amended figures of areas have been reported) the total outturn was 3,383,459 tons or 21 per cent. above normal. The percentage outturn of the other principal crops, as compared with the estimated normal outturn, is given below:—

Name of Crop.		Outturn in percentage on Estimated Normal.
Rice	...	120
Barley	...	115
Jowar	...	209
Bajra	...	152
Maize	...	129
Gram	...	110
Rabi oil-seeds	...	110
Sugarcane	...	131
Cotton	...	195

243. Generally good harvests and restricted exports in 1919-20 depressed prices. The average price of jowar fell from Rs. 7-4-0 to Rs. 5, of bajra from Rs. 6-14-0 to Rs. 5-6-0, of cotton from Rs. 14-12-0 to Rs. 13-5-0, of wheat from Rs. 5-9-0 to Rs. 4-15-0, and of gram from Rs. 5-9-0 to Rs. 4-13-0 per maund. The prices of other crops fell from Re. 1 to Re. 0-10-0 per maund. Exports of wheat and gram were smaller ; and of jowar, bajra, and cotton larger than in the preceding year. Imports of sugar and rice (which are imported on the balance) declined. Stocks of food-grains are generally sufficient.

Prices, Trade and Food stocks.

29.—Horticulture.

244. Last year's anticipation that there would be a substantial increase in receipts this year was borne out by the results, garden sales having risen by Rs. 2,592, which may be taken as a fair indication of the return to normal conditions. Large quantities of cut chrysanthemum were supplied during the winter to Calcutta florists and the Bikaner State. The annual chrysanthemum and spring flower shows were revived after a lapse of four years. Further improvements have been effected in the gardens, and the expenditure incurred on ornamentation and additional road-metalling has been justified by the results attained.

Lawrence Gardens, Lahore.

The number of students attending the arboriculture classes rose to 34.

30.—Forests.

245. The area controlled by the Forest Department was reduced by 301 square miles to 6,744 square miles. Ninety-nine square miles of irrigated land were disforested for colonization ; while, as a result of completion of the Forest settlement in Kangra, 270 square miles were brought under the control of the Forest Department and 466 square miles transferred to the control of the Civil Department. The classification of the

Alteration in area.

forests is now as follows :—

	Square miles.
Reserved	1,742
Protected	4,035
Unclassed	607
Leased	360
TOTAL ...	6,744

Forest Settlement.

246. The settlement of no new areas was taken in hand during the year. Out of a total area of 13·09 square miles undergoing settlement at the beginning of the year half a square mile was finally settled, leaving a balance of 12·59 square miles (Daphar and Tera plantations) to be dealt with. No progress could be made with the demarcation of the high-lying pine and fir forests in connection with the settlement of the Sutlej Valley forests in Bashahr.

Working Plans.

247. Some defects in the Kangra revised plan, which was finished last year, have still to be remedied.

The Shahdara revised working plan and the felling schemes for the Bhajji and Tharoch State forests were approved ; the browsing scheme for the 53rd Silladar Camel Corps was sanctioned, while that for the 54th Silladar Camel Corps is still under consideration.

Protection.

248. The total number of offences reported was less than last year and the average of the preceding years by 407 and 613, respectively. The total area of forest burnt was only 8,933 acres. The Divisions which suffered most were Kulu, Kangra, and Multan. In the two last-named most of the area was burnt through intentional firing. In the two Rawalpindi Divisions only 282 acres were burnt in 27 fires.

The area open to all grazing decreased from 5,777 to 5,432 square miles owing to disforestation for colonization and transfer of large areas in Kangra to the Civil Department. Damage was done by late frosts in the irrigated plantations, and by late snow in the hill forests.

Natural and artificial reproduction.

249. Exceptionally little seed was produced by most of the important species of trees. The state of existing reproduction was, on the whole, satisfactory, more especially in Kulu and Kangra; but owing to a succession of poor seed years reproduction of *chir* pine in both Rawalpindi Divisions is still disappointing. In the higher lying forests of the Rawalpindi West Division, where the broad-leaved trees are being exterminated by lopping, blue pine is rapidly establishing itself. The production of shoots was good in the Kangra bamboo forests. In the Jhelum Division the poor results of coppice fellings and want of seedling reproduction give cause for anxiety in the acacia and olive forests. The total area sown up to the end of the year in the five irrigated plantations was 7,094 acres as compared with 6,123 acres at its commencement. The supply of water in nearly all the irrigated plantations is inadequate, and many distributaries need remodelling to ensure the minimum irrigation necessary. The total expenditure incurred on, and revenue derived from, all these new plantations up to the end of the year have been Rs. 2·80 lakhs and Rs. 7·25 lakhs, respectively.

Exploitation.

250. The outturn of all classes of produce compares as follows with the average of the three preceding years :—

	Timber.	*Firewood.*	*Minor Produce.*
	Thousands of c. ft.	Thousands of c. ft. stacked.	Value in lakhs. Rs.
1919-20	... 7,718	27,522	26·41
Average, 1916-17 to 1918-19.	... 8,119	27,072	24·27

Owing to the introduction of departmental exploitation comparison of the timber outturn with that of recent years is misleading. But taking last year only for comparison departmental exploitation which was re-introduced in Kulu during the year indicates some progress. Distribution of timber to right-holders throughout the Kulu Division accounts for a considerable increase in the removals by this class. There was keen demand for firewood in the plains divisions. The increase in minor produce is due to more extensive resin-tapping in Kangra and the two Rawalpindi Divisions, 38,427 maunds of crude resin in all being collected. In addition to this 2,825 maunds

of resin were purchased from Kashmir, Patiala and the North-West Frontier Province, and 106 maunds of resin were sent by the Government of Burma to Jallo for experimental distillation. Altogether 35,656 maunds of resin were distilled, a satisfactory increase of 24 per cent. on last year's working. The outturn of resin was 25,717 maunds or 72·12 per cent. of the resin distilled, which is a slight improvement on the previous year. The turpentine obtained from primary distillation was 70,974 gallons as against 52,701 gallons last year. The average price obtained for resin was Rs. 17-4-0 per maund as compared with Rs. 17-8-3 per maund last year, but there was an increase of Re. 0-14-0 per gallon on the average price of quality I turpentine.

Miscellaneous.

251. A scheme for re-organization of the superior staff in connection with the development of the Department's work has been submitted to Government.

Timber works and labour.

252. The development of departmental exploitation renders the creation of exploitation divisions staffed by qualified men permanently employed a matter of urgency. Further, in order both to deal with the full yield of the forests and to reduce wastage it seems clear that timber must be extracted from the hill forests in the shape of logs whenever this is practicable. Mechanical means of transport will be required in a number of forests to enable them to be worked at a profit. Both labour and transport are becoming increasingly difficult to obtain, and in the case of sawyers exorbitant advances are being demanded against a not very binding promise to work.

In connection with the future working of the hill forests one of the Consulting Forest Engineers to the Government of India has been touring the Bashahr and Kulu Divisions since May. With his aid a number of projects have been drawn up, but their operation will call for the employment of specially-qualified engineers and subordinates.

Rates and prices.

253. Rates for almost every kind of forest work have perforce been raised during the year, and in consequence it was found impossible to supply timber to the North-Western Railway

at the prices agreed on for the three years ending March 1922. Even with the enhancements accepted by the Railway authorities some of the less favourably-situated forests can only be worked at a loss. Throughout the year prices obtained for timber in the open market have been good and in some cases unduly inflated.

Mechanical means of transport.

254. Large quantities of wood are lying cut in Changa-Manga and, with carts increasingly difficult to obtain even at greatly enhanced rates, an effort is being made to meet the situation by laying a steam tramway. There are, however, many obstacles to getting suitable track at short notice in India or in England.

Wire ropes for a number of temporary ropeways for use in the hills are being obtained from England, but the inevitable delay in delivery has already involved extra expense on coolie carriage, and much timber sawn last year has still not reached the plains depôts.

A scheme for a permanent ropeway from the vicinity of Simla to Bashahr is now under examination by an expert. Although this line is primarily required for the import of foodstuffs for labour employed in Bashahr it may render feasible the export of small timber which cannot be floated and is now wasted. There is also the possibility that the Bashahris might learn to depend on imported food-grains and devote their land to the more remunerative cultivation of potatoes, or to the increased production of timber.

Bamboos.

255. Steps have been taken to create a market for the whole yield of the Kangra bamboo forests. Delivery has been undertaken further afield than usual, and a number of Government departments requiring bamboos are being supplied direct. At the instance of Army Headquarters a scheme for the oil treatment of bamboos to render them immune from attack by borers is under examination.

Financial Results.

256. The financial results are given in section 43; the year's working shows a surplus of Rs. 23·33 lakhs, and the cash surplus of Rs. 15·23 lakhs which exceeds the previous highest surplus (last year's) by nearly six lakhs.

ARBORICULTURE.

257. The triennial report which was due this year has been postponed until next year.

31.—Mines and Quarries.

Mines.

258. The number of collieries and other mines worked under the Indian Mines Act was 23. Of these four are Government Salt Mines, eight collieries (six in Jhelum, one in Mianwali, and one in Shahpur), and eleven slate, lime and stone mines (three in Gurgaon, two in Gurdaspur, five in Kangra, and one in Hoshiarpur).

The amount of mineral raised, and its value, as compared with 1916, 1917 and 1918, is as follows :—

—	Minerals, in tons.				Value, in rupees.			
	1916.	1917.	1918.	1919.	1916.	1917.	1918.	1919.
Coal ...	47,448	49,968	48,587	39,694	3,20,026	3,76,192	5,70,281	6,62,166
Salt ...	160,356	152,360	159,512	174,974	4,09,244	3,89,809	4,04,539	4,60,575
Slate, stone and lime.	7,315	8,660	8,462	9,076·39	1,07,890	1,07,913	1,31,370	1,33,256
Potash ...	...	161	134	88	...	928	687	423

The decrease in the coal mines is attributed to labour difficulties, although in the collieries wages increased by more than 50 per cent. and in the salt mines by 20 per cent.

The health of the operatives was generally good and sanitation sufficient.

Other minerals.

259. Minerals which do not come under the Indian Mines Act are :—Gold (by washing), petroleum, alum shale, block-kankar, limestone, gypsum, antimony, building and sandstone. The outturn and value of these minerals during the year were as follows :—

District.	Name of Mineral worked.	Total amount of Mineral raised.	Total value of Mineral at the Mine.
			Rs.
Ambala ...	Gold by washing ...	27·93 ozs.	2,198
Attock ...	Ditto ...	64 ozs.	4,000
Jhelum ...	Ditto ...	38·8 ozs.	2,716
Total ...	...	130·73 ozs.	8,914
Attock ...	Petroleum ...	113,360 gallons	14,170
Mianwali ...	Do. ...	970 „	191
Ambala ...	Alum shale ...	3,306 tons	9,000
Do. ...	Block-kankar ...	114 „	128
Jhelum ...	Limestone ...	21,504 „	48,782
Do. ...	Gypsum ...	4,719 „	10,705
Do. ...	Antimony ...	32 ozs.	32
Do. ...	Sandstone ...	1,840 tons	3,900
Do. ...	Building stone ...	856 „	100
Simla ...	Ditto ...	9,297 „	2,172

The Attock Oil Company have begun the construction of their refinery at Rawalpindi, and proceedings are in train for laying a pipe line from the works at Khaur to this refinery.

32.—Industries and Manufactures.

Constitution of Industries Department.

260. The year under report saw the constitution of a separate Department of Industries under a Director, who also undertook the duties of Director of Civil Supplies and Controller of Munitions.

Progress.

261. In the Government Central Weaving School which consisted of a small weaving class, a hosiery class, and a Zenana class, 24 students were trained in the art of weaving or the use of hosiery machines, and the average number of women who attended the Zenana class each month was 23. The Textile Assistant with his weaving staff was transferred to the village of Sham Churasi, in the Hoshiarpur District, which has a large weaving population, and it is proposed to maintain the school there until the local weavers have thoroughly learnt the use of the fly-shuttle loom. The Zenana class remained in Lahore.

In the Government Dyeing School, Lahore, under the supervision of Mr. S. R. Khosla, A.M.S.T., 34 students

were under training. The great achievement of the Dyeing School has been to attract the interest of capitalists who either own or intend establishing weaving factories. The Dyeing School also helped dyers and factory owners by the supply of—

(*a*) alizarine ; (*b*) useful information regarding source and price of colours ; and (*c*) expert advice in dyeing yarn and leather with fast colours.

Factories.

262. The number of factories registered under the Factory Act rose to 247—an increase of 44, which is chiefly due to the erection of new cotton-ginning factories in the Canal Colonies and of two new flour mills at Lyallpur and Badami Bagh. Of the total factories 230 actually worked, but at least 30 were operated for only one cotton season.

The Factories Act.

263. The administration of the Factories Act during the year was, to some extent, ineffective owing to the absence of the permanent Factory Inspector on military duty until the end of cotton season, 1918-19, and then on six months' leave during the summer.

Water-supply and sanitary conditions were generally satisfactory, but the lighting arrangements in cotton-ginning factories showed no signs of improvement—the lighting of the dangerous line shaft being specially defective. Ventilation in textile as well as in cotton-ginning factories is still unsatisfactory. The rise in wages, especially of unskilled labour, was maintained throughout the year.

The number of accidents reported increased noticeably from 160 to 241. Of these 195 occurred in the Railway Shops and other Government factories while 46 took place in other (mainly seasonal) factories.

Towards the end of the year revised factory rules were brought into force.

33.—Trade.

Rail and River-borne Trade.

Total Trade.

264. Contrary to the experience of the two previous years the balance of trade proved unfavourable to the Province during the year

under review : and imports exhibit in volume a considerable, and in value a slight, increase ; while exports disclose a marked decrease in both volume and value.

265. The following statistics show some of the more noticeable increases :—

Net Imports—
(a) Increases.

Name of Article.	Weight, in lakhs of maunds.	Value, in lakhs of rupees.
Kerosene oil	6,75	52·75
Timber, excluding railway sleepers	1,05	29
Materials of other sorts	12	103·25
All other articles of merchandise	15·5	78

The first three of these four articles had been imported in unusually small quantities in the preceding year. Some commodities show a considerable increase only in value, *e.g.*, Indian piece-goods, Rs. 241·25 lakhs ; manufactured wood, Rs. 34·5 lakhs ; unwrought brass, Rs. 23 lakhs ; oil-seed (*til*), Rs. 14·75 lakhs ; imported wine and spirits of all kinds, Rs. 12·5 lakhs ; and hardware and cutlery, Rs. 11·75 lakhs. The net imports of wrought-iron and steel advanced by 3·25 lakhs of maunds in weight, but declined by Rs. 22·5 lakhs in value.

(b) Decreases. The chief decreases in net imports were :—

Name of Article.	Weight, in lakhs of maunds.	Value, in lakhs of rupees.
Coal and coke for railway purposes	55	27·75
Rice not in the husk	10	44·25
Gunny bags and cloth	2·5	80·5
Sugar, refined and unrefined	20·75	71
Gur, rab, etc.	3·5	11·5
Fresh fruits and vegetables	1·25	10·75

While these decreases were generally due to high prices, other causes contributed to reduce the volume of trade, among which may be mentioned an inadequate supply of railway wagons for the carriage of coal and coke; restrictions imposed in other provinces on the export of rice; reduced demand for gunny bags owing to restricted export of grain; larger demand for Indian piece-goods in place of the more expensive foreign articles; and curtailment of sugar imports owing to increased provincial production.

Net Exports—
(a) Increases.

266. The most important increases were—

Name of Article.	Weight, in lakhs of maunds.	Value, in lakhs of rupees.
Raw cotton	6·25	55·25
Jawar and *bajra*	7·75	37·25
Rice in the husk	3·50	16·25
Other oil-seeds	2·75	18·25

(b) Decreases. The principal decreases were—

Name of Article.	Weight, in lakhs of maunds.	Value, in lakhs of rupees.
Hay, straw, and grass	26·5	34·75
Gram and pulse	111·75	559·25
Wheat	61·75	216
Wheat flour	4	14
Other grains	16·25	55
Rape and mustard seeds	22·75	72·5
Salt	4	30·25

The *rabi* harvest compared unfavourably with that of the preceding year, and the restrictions on export hampered the movement of food-grains. The requirements of expeditionary forces were also smaller.

Treasure.

267. The net imports of gold bullion decreased by Rs. 29·5 lakhs, and those of silver bullion by Rs. 16 lakhs. There was a re-appearance of gold coin which was imported to the value of Rs. 1·5 lakhs. The net imports of silver coin declined by Rs. 46·15 lakhs owing chiefly to restrictions on its issue from treasuries.

Distribution of trade.

268. Karachi has further intensified its connection with the Punjab, its share of the provincial exports having advanced from 27 to 31 per cent. owing to large exports of raw cotton and rape and mustard seed. The other principal customers are Bombay Port and the United Provinces. Exports to the former fell from 23 to 20 per cent. owing to decreased exports of raw cotton, gram and pulse; those to the latter remained steady at 16 per cent. Imports from Karachi rose from 14 in the previous year to 18 per cent., while those from Calcutta shrank from 18 to 16 per cent. The percentages of imports from the United Provinces and Bombay were nearly the same as last year.

Among the internal blocks of the Province the most important are the Cis-Sutlej territory (excluding Delhi City) and the territory between Sutlej and Jhelum, which together absorb about three-quarters of the imports and furnish about 81 per cent. of the exports. The share of the former block decreased from 36 to 31 per cent. in imports and from 51 to 43 per cent. in exports; that of the latter similarly increased from 34 to 38 per cent. and from 31 to 37 per cent.

Trans-Frontier Trade.

Volume.

269. As compared with the year 1918-19 imports (excluding treasure) decreased from 34 thousand to 26 thousand maunds in weight and from Rs. 22 lakhs to Rs. 17 lakhs in value. Exports decreased from 19 thousand to 17 thousand maunds in weight, but increased from Rs. 39 lakhs to Rs. 44 lakhs in value.

Trade with Afghanistan.

270. Practically, the only articles of import are drugs and fruit. A large increase under drugs was balanced by a similar decrease under fruits. High prices stimulated imports of the former; shortage of the fruit crop in Afghanistan was responsible for the contraction in the latter. As regards exports there was a decrease in weight and value under European piece-goods. The trade in Indian piece-goods was resumed with exports amounting to 264 maunds in weight and Rs. 31,680 in value. There was a decrease in value under raw leather, but an increase under manufactured leather. Under iron there was an increase in weight and value; of refined sugar 56 maunds were exported as compared with *nil* in the previous year. There was a small increase in the exports of tea.

Trade with Central Asia—Imports.

271. Imports decreased by 3,656 maunds in weight and by Rs. 4·40 lakhs in value. Under horses and ponies there was an increase in number and value. With rates of hire comparatively low and prices of horses, etc., at Leh correspondingly high, animals were sold there in unusually large numbers. Similar remarks apply to sheep and goats. Under *charas* there was an increase in weight and value. This expanded business was due to the anxiety of traders to import the commodity in larger quantities before the enhanced duty to be imposed upon it took effect on the 1st April 1920. The decrease in weight (despite an increase in value) under Tibetan salt was due to reduction of output of this salt caused by flooding of the salt lake in Tibet. Decreased production in Khotan was again responsible for a decline under raw silk in weight and value. The imports of raw wool decreased in weight and value owing to heavy mortality of cattle in Tibet.

Exports.

272. Of exports there was a decrease of 2,477 maunds in weight, but an increase of Rs. 4·63 lakhs in value. Coral showed a decrease in value owing to the disturbed state of Russian Turkistan; but there was an increase in weight and value under European cotton twist and yarn and cotton piece-goods by reason of the absence of Russian competition. Under drugs and medicines there was a decrease in weight and value. The enormous rise in the cost of carriage now renders unprofitable the export from this country of

cheap drugs such as dry leaves of *sana*, etc. Under indigo there was an increase of 559 maunds in weight and of Rs. 13·34 lakhs in value. Owing to the scarcity of aniline dyes in the Turkistan markets the exports of dyeing materials (other kinds) were in excess of consumption in the preceding two years and this year show a falling-off in value. The decline in the export of wheat and husked rice follows as a natural consequence of the decreased import of salt with which they are usually bartered. The trade in hides and skins discloses a contraction in weight and value. It appears that otter skins exported from Bengal are being replaced in Yarkand by Chinese furs. Surplus stocks of the preceding two years and high prices are responsible for the decreases in value under unmanufactured leather ; of weight and value under manufactured silk and manufactured wool ; as well as under spices and sugar (refined and unrefined). Kerosene oil is said to be advancing in popular estimation in Yarkand with the result that there was a larger export of petroleum. Paints and colours exhibit an increase in weight and value owing to the same cause as in the case of indigo. Exports of black and green tea also increased.

Trade with Tibet.

273. Imports declined by 3,760 maunds in weight and Rs. 83,778 in value. There were decreases in weight and value under borax and salt (partly owing to shortage of transport sheep and goats) and under raw wool owing to the competition of traders from districts other than Simla. Exports increased by 1,122 maunds in weight and by Rs. 20,000 in value. The increases occurred chiefly under (1) cotton piece-goods, (2) other spring crops, (3) brass and copper, and (4) Indian black tea.

Treasure.

274. Imports of gold (both bullion and coin) from Central Asia decreased from Rs. 2·30 lakhs to Rs. 1·45 lakhs, and those of silver from Rs. 13·34 lakhs to Rs. 10·11 lakhs. The imports of Russian paper increased from Rs. 5·69 lakhs to Rs. 6·20 lakhs. There was no export of gold to Central Asia, but exports of silver increased slightly. The only Russian paper exported was that returned from Amritsar (after the issue of the orders prohibiting its import) for deposit in the Leh State treasury. Its value was Rs. 24,500. Exports of silver coin to Tibet increased to a small extent.

LIBRARY

JOINT STOCK COMPANIES.

275. The number of registered companies has increased by three to 79. Five public companies went into liquidation; four new public companies and four new private ones were registered. There is as yet no indication of any awakening of Joint Stock enterprise. Trade and commerce continue to monopolise the attention of local capitalists. Paid-up capital increased by a little over eight lakhs of rupees. The liquidation of defunct companies is proceeding satisfactorily.

34.—Buildings and Roads.

Total Expenditure.

276. The outlay on public works in the Buildings and Roads Branch during the year amounted to Rs. 100·93 lakhs, an increase of slightly over Rs. 22·81 lakhs as compared with the previous year. Imperial Military and Imperial Civil Works accounted for Rs. 6·48 lakhs of this amount while Rs. 4·25 lakhs were spent on contribution works. The expenditure on Provincial Civil Works rose to Rs. 90·19 lakhs, or approximately Rs. 22·86 lakhs more than last year's figures.

Imperial Military Works.

277. The only Military Work of any importance that was completed was the new Headquarters and Armoury buildings for the 5th Punjab Light Horse at Lahore.

Imperial Civil Works.

278. Work on the new combined telegraph and telephone office at Simla continued during the year. The realignment of roads necessitated by the construction of the new building was finished and in the building itself the sub-basement and basement floors were completed in those portions taken in hand. The replacement of the decayed stone and rebuilding of the bell tower at Viceregal Lodge, Simla, were carried to conclusion. Motor garages and subsidiary buildings for the postal service on the Kangra Valley and Dalhousie roads, as well as at Rawalpindi and Kohala, were completed.

Provincial Civil Works.

279. *Administration.*—In connection with the new Secretariat Scheme at Charing Cross, additional land was taken up and the statement of the accommodation required was completed. On the return of the Consulting Architect from

Europe the planning will be taken in hand. The Lahore and Simla housing schemes were advanced, the three large houses on the Brockhurst Estate, Simla, being finished and the old Brockhurst House dismantled. It is intended to construct a set of flats on this site. At Lahore nine residential houses were completed and all were occupied during the winter of 1919-20.

280. *Educational.*—The provision and improvement of Educational buildings continue. A Normal School with Boarding Houses is under construction at Ghakkar. The Normal School at Lyallpur was extended to accommodate a training class and additions are being made to the High School Boarding House at Mianwali. Land was acquired for a hostel, Head Master's residence and office for Inspector of Schools at Jullundur. The site for the proposed Training College at Sanawar was cleared while the construction or extension of the Boarding Houses and Normal and High Schools at Karnal, Hissar and Rohtak made good progress.

281. *Jails.*—Works of some importance were carried out at the Borstal, Multan and Montgomery Jails.

282. *Police.*—The construction of the new Police Lines at Amritsar was practically completed while work on three Police Stations with married quarters at Tandlianwala, Sayadwala and Luddan and on a Police Hospital at Dharmsala was put in hand.

283. *New District of Sheikhupura.*—Works in connection with the formation of the new district comprise buildings for all branches of the administration. The new Division was opened in October and arrangements were made to commence the manufacture of bricks and collection of other material. Coal difficulties and the revision of the old projects retarded building, but a start was made on the new District Court and Treasury.

Communications.

284. *Communications Board.*—A Provincial Board of Communications, consisting of official and non-official members, was constituted during the year under review. It is a central body dealing with all questions of communications whether by road, rail or water, with the object of ensuring that all forms of communications are so designed as to serve best the general needs of the public. Sub-committees have been appointed to advise on the various lines of communications in each sphere.

Trunk roads are being brought up to the standard required for the increasing use of mechanical transport by the construction of additional, and strengthening of existing, bridges. The bridging of the Bishendore and Bhaikhan Nullahs between Gujrat and Rawalpindi and of the Koth bridge between Lahore and Gujranwala was completed.

Certain flooded gaps on the Grand Trunk Road north of Lahore and between Jullundur and Beas are being dealt with, and the construction of the Chenab and Palkhu bridges near Wazirabad as well as of the road bridges over the Tangri and Omla streams was pushed on. Progress on the Fatehjang-Khaur Road was seriously affected by its proximity to the military operations on the North-West Frontier Province which practically drained the locality of its limited supply of labour and transport. The work, however, was within measurable distance of completion by the end of the year. Improvements were also being carried out on the Rawalpindi-Kohala, Hindustan-Tibet, Delhi-Gurgaon and Lahore-Ferozepore and other roads, and extensive arrangements were put in hand for the thorough repair and improvement of the Lahore-Sheikhupura Road.

Contribution works.

285. Additional works in connection with the King Edward Memorial Hospital Scheme at Lahore as well as additions and alterations to the King Edward Memorial Sanitorium at Dharmpur were completed. The Lyallpur Water Supply was improved and drainage schemes were initiated at Lala Musa and Sillanwali (in the Shahpur District).

Floods, Famine, Earthquake, etc.

286. Damage estimated at Rs. 70,000 round was caused to the Church, District Court, Tahsil, Dâk Bungalow, Post and Telegraph Office and other Government buildings at Gujranwala during the disturbances of April 1919. All these buildings, as also the Munsiff's Court at Kasur, were burnt down. Minor damage was also done to the Telegraph Office at Amritsar.

Sanitation.

287. With the formation of the Sanitary Sub-Division the Sanitary Engineer is now in a position to keep a closer control and supervision over the more important sanitary projects.

Two Assistant Sanitary Engineers are also being recruited from England.

Consulting Architect.

288. The value of the work designed by the Consulting Architect continues to increase. It amounted in the year under review to nearly Rs. 50 lakhs, or some Rs. 17 lakhs more than last year.

The recruitment of an Assistant Consulting Architect who joined in March should do much to facilitate progress on the several schemes which await architectural treatment.

289. Various urgent projects had to give way to the preparation of the drawings required for the temporary Legislative Council Chamber and additional offices at the Civil Secretariat, Lahore. Designs were prepared for the conversion of the old Council Chamber at Government House, Lahore, into a suite of rooms for distinguished visitors. An outlay plan for the new district of Sheikhupura; plans for the Punjab Light Horse Headquarters and Armoury and the Government College Hostel buildings at Lahore, and for the European Training College at Sanawar are some of the more important works on which the Consulting Architect is busy.

Electrical Engineer.

290. No new electrical projects were prepared in the year under report, but applications for 16 licenses under the Electricity Act were received. Seven of these were withdrawn, two were gazetted and the remainder are under consideration of the military authorities. The Electrical Engineer continued to carry out the duties of Electrical Engineer to the North-Western Railway up to the end of 1919 when he was relieved of the latter charge. He also carried out the duties of Electrical Advisor to the Simla Municipality for some part of the year in addition to his own duties.

Establishment.

291. All officers (with one exception) who had been retained on military duty rejoined. Five newly appointed Assistant Engineers were recruited, and Colonel B. C. Battye was placed on deputation for the preparation of the Sutlej River Hydro-Electric Survey.

The percentage cost of establishment to the total cost of works and repairs executed was 14 per cent. against 14·4 per cent. for the preceding year.

34-A.—Railways.

292. There were considerable restrictions on booking of goods owing to the shortage of rolling stock and the large demands for freight by the military authorities. Booking on certain sections of the North-Western Railway was entirely closed to the public for extended periods, exceptions being made in the case of special articles or of holders of special certificates.

35.—Irrigation.

General.

293. The direct receipts and expenditure during the year were Rs. 331·46 lakhs and Rs. 128·51 lakhs, respectively, as compared with Rs. 286·35 lakhs and Rs. 127·83 lakhs for 1918-19, and Rs. 252·12 lakhs and Rs. 141·32 lakhs, the averages of the triennium ending 1918-19. The expenditure, as divided between Capital and Working Expenses, was Rs. ·67 lakh and Rs. 129·18 lakhs, respectively. In the former case the expenditure was more than balanced by realizations effected from the sale of the surplus stores, tools and plant rendered available by completion of works ; from colonists on account of cost of water-courses which Government had built for them in advance in order to secure rapid development of irrigation on the Triple Canal system, and from other miscellaneous sources.

The indirect revenue credited to the canals on account of enhanced land revenue, etc., amounted to Rs. 133·59 lakhs as against Rs. 130·91 lakhs, the average of the triennial period ending 1918-19.

Area irrigated.

294. The total area irrigated by works of all kinds under the control of the Irrigation Department was 10,456,658 acres, showing an increase of 1,440,674 acres and 1,236,755 acres, as compared with the previous year, and the average of the previous triennium, respectively.

Finance.

295. The capital outlay (direct and indirect) incurred on canals classed as Productive Major Works was a minus quantity (*viz.*, Rs. ·54 lakh), thus leaving the total outlay to date at about Rs. 2,400 lakhs (including 155 lakhs contributed by Native States).

The net revenue earned by the Imperial Canals amounted to Rs. 324·04 lakhs or Rs. 14·43 per cent. on the capital invested to date, *viz.*, Rs. 2,244·57 lakhs.

296. The areas irrigated by and the financial results of each of the Major Works are shown in the following statement :—

Major Works.

(Thousands omitted.)

1	2	3	4	5	6	7	
Serial No.	Name of Canal.	Area irrigated.	Gross Income.	Working Expenses.	Net Income.	Percentage Profit on Capital Outlay.	
						Excluding Interest Charges.	Including Interest Charges.
		Acres.	Rs.	Rs.	Rs.		
1	Western Jumna	855	(a) 36,66	(a) 15,77	19,89	11·17	7·92
2	Sirhind ...	1,549	(b) 43,61	(b) 13,63	29,98	11·63	8·38
3	Upper Bari Doab.	1,253	52,27	15,25	37,02	16·61	13·25
4	Lower Bari Doab.	869	45,62	12,82	32,80	14·41	10·99
5	Upper Chenab	543	27,69	14,79	12,90	3·63	0·29
6	Lower Chenab	2,455	1,68,43	22,27	1,36,16	44·72	41·38
7	Upper Jhelum	299	12,10	10,12	1,98	0·44	−2·95
8	Lower Jhelum	819	42,93	10,11	32,81	19·32	15·89
9	Upper Sutlej Inundation Canals.	343	7,44	4,50	2,94	16·15	12·94
10	Sidhnai Canal	284	6.57	1,23	5,34	40·05	36·76
11	Indus Inundation Canals.	240	5,33	3,10	2,23	7·46	4·14
	TOTAL ..	9,508	4,47,64	1,23,59	3,24,04	14·43	11·08

(a) Excludes Patiala State.
(b) Excludes Native States—Patiala, Nabha and Jind.

297. On all the Imperial Minor Works not classed as productive, including the two canals for which Capital and Revenue accounts are kept, the net profit amounted to Rs. 5·42 lakhs as compared with Rs. 8·02 lakhs in the previous year.

Minor Works.

There is only one Provincial Canal in operation under the control of the Irrigation Department, *viz.*, the Shahpur Provincial Inundation Canal. This showed a net deficit of Rs. 5,711.

298. The detail of the working of each canal is given below:—

Major Works—Canals in Operation.

299. After a summer of intense heat the monsoon broke late in the second week of July, and withdrew early in the first week of September. There was fairly good rainfall during May and June, when demand was intense, and, consequently, the area of *kharif* sowing was large. The early cessation of the monsoon created a very keen demand for *kharif* last waterings and preliminary waterings for the *rabi* crops. Fortunately, however, the supply in the river was fairly good during September, October and November. Thus, not only was the *kharif* area increased, but a large area of *rabi* crops was sown. Some rain fell in December and February, and, though not as much as was required, it was timely and helpful, particularly in the dry tracts of Rohtak and Hissar. The Canal was in flow for 158 days during the *kharif* season and 178 days in the *rabi* season.

Western Jumna Canal.

The total area irrigated, including Patiala and Jind States, was 854,982 acres (424,436 acres in *kharif* and 430,546 acres in *rabi*) as compared with 758,105 acres (356,729 acres in *kharif* and 401,376 acres in *rabi*) the average of the triennium ending 1918-19. The latter figures were, however, affected by the adverse irrigational conditions of two years, *viz.*, in 1917-18 rainfall considerably in excess of the normal and in 1918-19 the influenza epidemic.

The net revenue received by the Patiala State on their channels on the Sirsa Branch amounted to Rs. 1·90 lakhs, or 16·28 per cent. on the capital invested, as compared with an average of Rs. 1·68 lakhs or 14·45 per cent. for the

triennium ending 1918-19, and Rs. 1·97 lakhs or 16·98 per cent. of the previous year.

Sirhind Canal.

300. June was practically rainless and the regular monsoon did not break till July, but was well maintained during that month and August. No abnormal falls or flooding of the country occurred. In the submontane tract near Rupar showers were frequent but small, with the result that there was a thorough soaking of the soil. The actual rainfall at Rupar for the monsoon was the lowest on record. The monsoon closed early. The rainfall of September was slight, while October and November were rainless. Light and fairly general falls in December were timely and helpful.

The demand owing to exceptionally heavy and early sowings of *kharif* crops was very keen and accentuated by the early stoppage of the monsoon and requirements for maturing *kharif* and sowing *rabi* crops. Supply was sufficient throughout the *kharif* season, but as usual there were rotational turns in the Branches in the *rabi* season.

The area irrigated by the British Branches amounted to 1,004,917 acres, while that irrigated by Native States Branches was 544,200 acres. The corresponding averages of the triennium ending 1918-19 were 777,130 acres for the British Branches, and 483,882 acres for the Native States Branches. The *kharif* area, being 403,647 acres for the British Branches, and 233,197 acres for those of the Native States, was the largest on record.

The Native States have also had a prosperous year, having collected Rs. 25·37 lakhs or Rs. 5·60 lakhs more than in 1918-19.

Upper Bari Doab Canal.

301. The monsoon was timely and well distributed, beginning in July with normal intensity. It came to an end early in September. This cessation was favourable for increasing the area under canal irrigation, as a large area that was sown on rains earlier in the season received canal water in September. The *kharif* area (639,019 acres) has, therefore, surpassed all records. October was almost rainless and November had only a passing shower, but there was good rainfall in December to March, which helped both irrigated and unirrigated crops. The *rabi* area which amounted to 613,564 acres was, therefore, normal. The area irrigated, *viz.*, 1,252,583 acres, also beats all records of the past 31 years.

The net income was Rs. 37,01,576, or 16·61 per cent. on the capital invested, as compared with 16·89 per cent. in the previous year. The decrease in the net income was due to an increase of Rs. 2 lakhs under working expenses.

Lower Bari Doab Canal.

302. The Canal was in flow for 322 days (175 days in *kharif* and 147 days in *rabi*) against 305 days in the previous year. The monsoon broke on the 22nd July, a week later than usual. The rainfall was sufficient during the *kharif* but inadequate during the *rabi* season. The demand for canal water was keen throughout the year.

The progress of canal irrigation, as stated in the previous year's reports, has lagged behind that estimated in the project owing chiefly to the delay of a year in the completion of the Upper Jhelum Canal and to the backwardness of colonization, but it has now practically reached the project figures, being 869,432 acres as against 871,308 acres.

The net revenue shows a decline when compared with the figures of the previous year, which included a sum of Rs. 5·81 lakhs on account of arrears for indirect receipts.

Upper Chenab Canal.

303. The *kharif* season was a favourable one, while the *rabi* season was normal. The monsoon began on the 13th July and continued till the 5th of September, and, though the heavy rainfall in July flooded the low-lying rice lands and consequently deferred rice sowings, yet this was more than compensated for during August, with the result that the area irrigated in the *kharif* season was a record one, it being 303,845 acres as compared with the previous maximum of 285,917 acres in *kharif* 1916. The area irrigated during the *rabi* season was also a record, being benefited by the timely rainfall during the maturing period.

The area irrigated during the whole year, *viz.*, 542,656 acres, was, however, still short of the project forecast by 105,711 acres. The Upper Chenab Canal, however, being a feeder channel for the Lower Bari Doab Canal, its financial merits as a commercial proposition must not be judged by its own results independently of those of the Lower Bari Doab Canal.

Lower Chenab Canal.

304. The *kharif* season was particularly hot and dry, resulting in a keen demand for canal water. About the 26th July the rains broke, and there was widespread rainfall, particularly

heavy in the east, and moderately so in the west, doing a lot of good to the standing crops and helping the *rabi* sowing operations considerably. Some small falls of rain during the winter months at suitable intervals also benefited the crops generally.

The Canal was closed for 17 days in *kharif* and 15 days in *rabi*. The water-supply was, on the whole, satisfactory. The area irrigated, 2,455,225 acres (851,161 acres in *kharif* and 1,604,064 acres in *rabi*, was the largest ever recorded both for the *kharif* and the *rabi* seasons.

The accumulated net profits after defraying interest charges have increased from Rs. 15,19·87 lakhs to Rs. 16,55·13 lakhs which is more than 5 times the capital cost of the Canal.

Upper Jhelum Canal.

305. During the *kharif* season the rainfall was mainly confined to the months of July and August. September was again a dry month, and the river supply fell rapidly. During the earlier part of the *rabi* season the demand for water exceeded the supply, but there was good rainfall in December and January, and, generally speaking, water was ample during the latter half of the season.

The area irrigated was 298,875 acres, as compared with 246,609 acres in the previous year. Development of irrigation, although satisfactory, is still short of the project forecast of 348,000 acres.

Lower Jhelum Canal.

306. The area irrigated was 818,900 acres. Of this the area of 284,070 acres irrigated during the *kharif* season was the largest on record. The area irrigated during the *rabi* season, though less by nearly 57,000 acres than the average of the triennium ending 1915-16 owing to restriction of water-supply consequent upon the opening of the Upper Jhelum Canal, does not compare badly with the results of the years subsequent to 1915-16.

The decrease in the net return (which was 1·17 per cent. less than that of the preceding year) is due to—

(*i*) an increase in the working expenses by about Rs. 1·51 lakhs; and

(*ii*) a decrease in the indirect receipts from which a deduction larger by Rs. 2·36 lakhs than in the previous year has been made to meet increased cost of administration, etc.

Upper Sutlej Inundation Canals.

307. The river supply during the months of May, June and July was high and the canals were drawing their full share. There was no trouble this year with the heads as was experienced last year owing to river erosion. The net area assessed was 383,532 acres, which was more by 89,935 acres than in 1918-19. The falling-off in net revenue is attributable to decrease of 82,187 acres in the area assessed during the two seasons.

Sidhnai and its subsidiary Canals.

308. The canal had a better supply during the *rabi* season than was the case in the previous year, with the result that wheat was sown more extensively. The irrigation effected was 139,749 acres in *kharif* and 144,037 acres in *rabi*, as compared with 121,212 acres and 108,185 acres in the corresponding seasons of the previous years.

The total income from all sources amounted to Rs. 6·57 lakhs, and the working expenses to Rs. 12·3 lakhs, giving a net revenue of Rs. 5·34 lakhs or 40·05 per cent. on the capital outlay against 53·82 per cent. in the preceding year. The falling-off in net revenue is attributable to a deficiency of about 61,000 acres in the area irrigated during the two seasons.

Indus Inundation Canals.

309. The area irrigated was 166,489 acres in *kharif* and 73,154 acres in *rabi*, as compared with 121,144 acres and 59,953 acres in the corresponding seasons of the previous year. The increase in irrigation was due to timely rainfall and favourable climatic conditions. The total failed area amounted to 40,674 acres during *kharif* and 15,505 acres during *rabi*. The failure was mostly due to bad soil, insect pests, and frost. On certain channels there are large tracts in which the soil is poor and requires a great deal of labour to be expended on it, which the Biloch cultivator has neither the inclination nor the energy to supply.

The income was Rs. 5·33 lakhs, expenditure Rs. 3·10 lakhs, giving a net return of 7·45 per cent. on capital outlay, compared with 5·32 per cent. last year.

Minor Irrigation Works.

Shahpur Imperial Inundation Canals.

310. The canals were opened early in April and closed in September.

The area irrigated was 45,809 acres as against 16,727 acres in the preceding year and 35,376 acres and 38,750 acres, the averages of the two triennia ending 1915-16 and 1918-19, respectively. The increase was due to favourable rainfall and river-supplies.

The net revenue of Rs. 8,888 brought a return of 3·95 per cent. on the capital outlay.

Ghaggar Canals.

311. The operations of the year on these canals resulted in a loss of Rs. 28,817, which is equivalent to 7·61 per cent. on the capital outlay as compared with a loss of Rs. 8,514, equivalent to 2·24 per cent. in the previous year. This high percentage of loss was due to—(*i*) the comparatively low *rabi* area of 1918-19, and (*ii*) an adjustment in the year's account of establishment charges due to an erroneous charge made in the previous year. The Ghaggar Canals, constructed as a productive work, are financially a failure and will continue to be so as long as the basis of assessment remains as it does at present. The canals are virtually a valuable protective work, and the basis of assessment is under re-examination with the Settlement Officer of this tract.

Lower Sutlej Inundation Canals.

312. The area irrigated was 301,555 acres as against 189,916 acres in the preceding year and 306,328 acres, the average of the previous triennium.

The failed area amounted to 54,871 acres (35,852 acres in *kharif* and 19,019 acres in *rabi*) compared with 44,636 acres in the preceding year.

The net revenue amounted to Rs. 25,767 against Rs. 1·92 lakhs in 1918-19. The decrease was due to (*a*) a decline in the area irrigated and matured during the *rabi* season of 1918-19, and (*b*) an increase of expenditure under working expenses.

The canals, although poorly supplied in the early part of the crop owing to low river-supplies, ran at their utmost capacity in the middle of the season and met all demands throughout.

Chenab Inundation Canals.

313. The River Chenab rose sufficiently high in the beginning of the flow season to admit of most of the canals being opened in time, but towards the end of the season the supplies were not as good as usual. On the whole, however, these

were timely and generally sufficient to run full canals, and the total area irrigated, 182,676 acres, was better than that of the preceding year.

The net income was Rs. 1·89 lakhs against Rs. 3·02 lakhs in the preceding year.

Muzaffargarh Inundation Canals.

314. The area irrigated (364,350 acres) was practically the same as the average (364,032 acres) of the triennium ending 1918-19.

The net revenue amounted to Rs. 3·47 lakhs against Rs. 2·99 lakhs in the preceding year.

With a view to relieving distress due to a widespread epidemic among the cattle the Kot Sultan and the Magisson Canals, which had favourable heads, were allowed to run up to the end of December and October 1919, respectively, with very beneficial results.

Shahpur Provincial Inundation Canals.

315. The canals were opened early in April. The flow of the river was, on the whole, favourable and the canals worked satisfactorily during the year. The area successfully matured and assessed was 34,175 acres as against 22,580 acres in the preceding year. The net loss of Rs. 5,711 was due to a decrease in the area irrigated during *rabi* 1918-19 and an increase in working expenses.

CHAPTER V.

REVENUE AND FINANCE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Land Revenue.—Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1919.

Canal Revenue.—Administration Report of the Irrigation Department, Punjab, for the year 1919-20.

Excise and Opium.—Report on the Excise Administration of the Punjab for the year 1919-20.

Stamps.—Report on the Administration of the Stamp Department of the Punjab for the year ending 31st March 1920.

Income-tax.—Report on the Income-tax Administration of the Punjab for 1919-20.

Forests.—Progress Report of Forest Administration in the Punjab for 1919-20.

Provincial Revenues.—Audit and Appropriation Report on the Accounts of the Punjab for 1918-19 and Review of the Annual Accounts of the Punjab for the year 1919-20 published in the *Punjab Gazette* dated $\frac{\text{April 30th, 1920}}{\text{November 12th, 1920}}$, Supplement Part II.

Local Funds.—Report on the Administration and Accounts of the District Boards in the Punjab for year 1919-20.

Municipal Revenues.—Report on the working of Municipalities in the Punjab during the year 1919-20.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume I—Commercial Statistics.

Volume II—Financial Statistics.

Volume IV—Administrative and Judicial (including area, population and local funds).

Salt.—Report on the Administration of the Northern India Salt Revenue Department for the official year 1919-20.

36.—Gross Revenue and Expenditure.

Revenue.

316. The following table shows the receipts under the various heads of revenue, excluding revenue from salt, in the year under report:—

(In thousands of rupees.)

Major Heads.	Imperial.	Provincial.	Total.	+ more — less on figures for 1918-19.
Land Revenue	1,56,80	1,56,81	3,13,61	+ 28,17
Opium	8,82	...	8,82	— 1,23
Stamps	38,95	38,94	77,89	+ 16,51
Excise	64,70	64,70	1,29,40	+ 24,22
Provincial rates	...	41	41	+ 10
Customs	24	...	24	+ 1
Income-tax	33,10	22,45	55,55	+ 15,23
Forests	...	38,46	38,46	+ 16,92
Registration	...	5,63	5,63	+ 1,57
Tribute	1,44	...	1,44	— 1
Interest	4,45	2,28	6,73	+ 1,10
Law and Justice—Courts of Law	...	8,17	8,17	+ 1,64
„ „ —Jails ...	...	5,12	5,12	— 1,64
Police	...	3,30	3,30	+ 1,44
Education	...	5,10	5,10	— 23
Medical	...	80	80	+ 4
Sanitation	...	1,18	1,18	— 44
Agriculture	...	7,46	7,46	+ 46
Scientific and Miscellaneous ...	...	32	32	+ 2
Receipts in aid of Superannuation	91	78	1,69	— 4
Stationery and Printing ...	1 14	1,20	2,34	+ 65
Miscellaneous	19,52	8,57	28,09	+ 13,46
Irrigation—Major Works ...	2,24,15	2,24,14	4,48,29	+ 35,23
„ —Minor Works ...	7,76	1,07	8,83	— 42
Civil Works	1,89	4,98	6,87	+ 1,54
Transfers between Imperial and Provincial.	— 59,00	+ 59,00	...	...
Total ...	5,04,87	6,60,87	11,65,74	+ 1,54,30

Expenditure.

317. The gross expenditure, excluding expenditure of the Salt, Military, Railways, Post Office and Telegraph Departments and capital expenditure on canals, was as follows:—

(In thousands of rupees.)

Major Heads.	Imperial.	Provincial.	Total.	+ more — less on figures for 1918-19.
Refunds	2,16	2,25	4,41	+ 2,00
Assignments	72	41	1,13	+ 23
Land Revenue	...	57,64	57,64	+ 8,26
Stamps	1,12	1,13	2,25	+ 29
Excise	1,25	1,25	2,50	+ 16
Income-tax	55	55	1,10	+ 52
Forests	...	24,16	24,16	+ 6,20
Registration	...	1,76	1,76	+ 42
Interest	2,91	1,90	4,81	+ 1,01
General Administration ...	4,67	14,42	19,09	+ 2,75
Law and Justice—Courts of Law	...	53,32	53,32	+ 7,11
„ „ „ —Jails ...	...	23,83	23,83	+ 45
Police	...	85,49	85,49	+ 14,26
Education	...	57,26	57,26	+ 4,23
Ecclesiastical	2,47	...	2,47	— 29
Medical	...	14,03	14,03	+ 2,43
Sanitation	...	9,94	9,94	+ 1,88
Political	6,50	...	6,50	— 70
Agriculture	...	20,93	20,93	+ 4,10
Scientific and Miscellaneous ...	...	2,37	2,37	+ 68
Pensions, Territorial and Political.	67	...	67	— 3
Superannuation	19	25,61	25,80	— 26
Stationery and Printing ...	39	9,57	9,96	+ 1,31
Miscellaneous	54	19,96	20,50	+ 29
Famine Relief	14	4	18	— 48
Irrigation, Major Works ...	58,68	58,68	1,17,36	+ 14,33
„ Minor Works ...	9,96	4,93	14,29	+ 60
Civil Works	37,43	1,02,48	1,39,91	+ 51,83
Total ...	1,29,75	5,93,91	7,23,66	+ 1,23,69

37.—Land Revenue.

318. The Land Revenue Report gives the figures for land revenue according to the agricultural year, which ends on the 30th September. There must consequently always be a difference between the total collections as calculated by the Treasury on the financial year and the yearly returns furnished by the Financial Commissioners' office.

For the year ending 30th September 1919 the following are the figures of collections, including those on account of previous years, comments on which have already been made in section 10 dealing with demands :—

	Rs.
Fixed Land Revenue ...	2,16,76,998
Fluctuating Land Revenue ...	1,33,07,886
Temporarily excluded from Fixed Land-Revenue Roll	53,169
Other Land Revenue	53,14,700
TOTAL ...	4,03,52,753

38.—Irrigation.

319. The total capital invested up to the end of 1918-19 on canals in operation classed as productive major works was Rs. 2,244·57 lakhs (apart from contributions by Native States of Rs. 145·98 lakhs). There was no capital expenditure during the year—in fact, the total capital outlay was reduced by Rs. ·54 lakh. The income from all sources, excluding refunds, was Rs. 448·35 lakhs, while working expenses aggregated Rs. 124·31 lakhs and interest charges Rs. 75·19 lakhs. The net profit thus amounted to Rs. 248·85 lakhs, as compared with Rs. 227·32 lakhs in the previous year.

The balance profit from Imperial Canals—Minor Works not classed as productive,—was Rs. 5·42 lakhs as against Rs. 8·02 lakhs in 1918-19. Provincial Canals show a small loss of Rs. 5,711.

39.—Excise.

Income and Expenditure.

320. The gross income from all sources rose from Rs 104·58 lakhs in 1918-19 to Rs. 129·40 lakhs in 1919-20, and the expenditure amounted to Rs. 2·67 lakhs against Rs. 2·42 lakhs in the previous year.

Distilleries.

321. The distilleries had a busy year. The issues would have been very much higher but for the special care taken to restrict these in the last two months of the year in order to prevent, as far as possible, profiteering by licensees in view of the prospective increase in still-head duty from the 1st April 1920. The quality of Java molasses received during the year showed some deterioration with the result that two-fifths of a gallon of spirit less per maund were extracted as compared with the previous year. Distribution of liquor from the distilleries to various districts in the Province was considerably hampered in the beginning of the year owing to the disturbances and the Afghan War. The total issues of different kinds of spirit (891,405) exceeded those of the previous year by 71,891 gallons, including 182,204 gallons issued in bond to Native States and Sind.

Breweries.

322. There was considerable falling off in the beer trade, and the sales decreased from 3,060,755 to 2,525,558 gallons. The quantity brewed in the quarter ending 31st March 1920 amounted only to 268,854 gallons as against 1,007,319 gallons in the quarter ending 31st March 1919. The decline is partly due to the increase on the termination of the war in the volume of imported beer, which was also stimulated by the favourable rate of exchange. It has been reported, as another reason, that the new soldier does not drink like the old one.

Country spirit.

323. The consumption of country spirit in the Punjab advanced by 19 per cent. The total number of proof gallons consumed (both plain and spiced) rose from 456,837 to 545,271. Prices were higher, the number of retail shops was less, and there was no epidemic like last year's influenza to account for a sudden resort to spirituous liquor. The only explanation of the increased consumption is that the drinking section of the people has more money to spend, and the rise in prices and the reduction in the number of shops failed to counterbalance this influence. The new freedom of manners and the destruction of old conventions has also had its effect. It is significant that the increase in the consumption of spiced spirit, an article of luxury, is proportionately much greater than the increase in the consumption of plain country spirit, which was once regarded with good reason as the drink of the masses. The sale of plain spirit went up from 293,182

gallons to 338,316 gallons; while the sale of spiced spirit expanded from 163,655 gallons to 206,955 gallons. There were 863 convictions for drunkenness in the municipal areas as against 729 in the preceding year. The present policy of closure of liquor shops on the occasion of fairs should tend to decrease drunkenness.

Opium.

324. The consumption of opium in the Province fell from 53,372 seers in 1918-19 to 51,358 seers in 1919-20. The very marked diminution in the aggregate consumption of different kinds of opium is a notable feature of recent excise statistics. The decrease appears to be partly due to a change of popular taste, and partly to the careful working of the system by which allotments in excess of local requirements are discouraged. The policy of reducing the number of retail shops to the minimum requirements of a district was followed in certain districts, and altogether 98 shops have been closed since 1913-14. The price of opium to the consumer rose remarkably in some districts, mainly on account of the high license fee and restricted issues. The total receipts from opium rose from Rs. 22·20 lakhs to Rs. 30·55 lakhs, an increase of or about 37·5 per cent. on the figures for 1918-19.

Hemp Drugs.

325. The consumption of *charas* rose from 19,499 seers to 21,327 seers, but that of *bhang* remained practically the same as last year.

Cocaine.

326. The sales of cocaine to the public advanced from 6,652 grains to 7,420 grains.

Local Advisory Committees and the Standing Committee.

327. The advice of Local Bodies was helpful in minor excise matters. The Standing Committee of the Punjab Legislative Council has made a successful start by discussing a number of questions of general interest. The Committee met twice during the year—first in September 1919 and again in March 1920. In accordance with one of the suggestions adopted by the Committee, the Excise Superintendent of the Province has been directed frequently to test bottles of country liquor to prevent the use of deleterious materials by distillers. Another suggestion adopted by the Committee related to the closing of liquor shops in Ludhiana on the occasion of fairs. The non-official members were in sympathy with a proposal put forward by a member that the experiment of total prohibi-

tion in a particular area in which the facilities for illicit distillation were few should be begun particularly in pilgrim towns like Jawala Mukhi and Kangra, where religious feeling would help prohibition. The large increase in consumption was again discussed generally in the March meeting, and one of the recommendations was that every measure possible should be taken to encourage temperance in the Army which, to some extent, sets a fashion to rural neighbourhoods.

Prosecutions.

328. A case of some general interest is the prosecution of an unlicensed vendor for selling *anti*-opium pills which contained a percentage of morphia. A Judge of the High Court held that morphia is prepared from opium, but there is a clear distinction between a preparation from opium and a preparation of opium and that it would be more accurate to describe opium as a preparation of morphia than morphia as a preparation of opium. The accused was consequently acquitted.

40.—Salt Revenue.

Cis-Indus and Kalabagh Mines.

Khewra Mine. Excavation of salt.

329. The year's output from the Khewra Mine of 3,827,658 maunds fell short of the previous year's record. The contributory causes of the deficiency were collapse of an important tunnel and consequent blockage for 3 months of works dependent on it: the breakdown of one of the two haulage locomotives: an outbreak of small-pox: and, lastly, the interruption caused by the April disturbances of 1919 and the railway strike of 1920. The outturn per 100 cubic feet and the cost per 100 maunds were respectively 135·86 maunds and Rs. 8-3-8·48 as compared with 139·15 maunds and Rs. 5-13-0·54 in 1918-19. The fall in maundage was due to a greater number of minor marl seams being encountered while the enhanced cost of production is accounted for by the increase which had to be sanctioned in the rates for excavation.

Development of the Warcha Mine.

330. The development of the Warcha Mine is progressing steadily. There are now six chambers in the new or eastern section of the mine while the new workings are in a position to give a daily outturn of some 3,000 maunds.

The smaller mines.

331. No special expenditure was incurred during the year in respect of the small mine at Nurpur. The Kalabagh operations are turning out satisfactorily.

Sale price of salt.

332. The Commissioner, Northern India Salt Revenue, has furnished some interesting statistics which show that on the salt transactions of the Salt Range Division there has in 26 years been a net loss of a little over Rs. 1 lakh. In that period over 3 million tons have been sold. The price of salt was increased half an anna to 2 annas per maund this year, owing to the increased cost of excavation. The net profit on the twelve months was Rs. ·84 lakh.

Investigation of the potash salt deposits at Nurpur.

333. No further exploration for potash salt deposits was made at Nurpur, but excavation was continued and 2,250 maunds of potash salt were despatched to Calcutta firms during the year.

Accidents.

334. The average number of persons employed daily above and below ground in the Khewra mine during the calendar year rose from 807 to 869, of whom 487 were men, 326 women, and 56 children under twelve years of age. There were 65 minor and 7 serious accidents in this mine, 6 minor accidents at Warcha, and no accidents at Kalabagh.

Jail prisoners.

335. The employment of jail prisoners at the Khewra depôt continued to prove a success. The conduct of the prisoners was throughout good, and they have never given trouble. The average number employed daily on filling, sewing, stacking, weighing and loading was 108.

Mandi Quarries.

336. Sales of Mandi salt amounted to 129,672 maunds and were 2,250 maunds below the figures of the previous year, for, although Dráng still further increased its output by 7,149 maunds, the Guman quarries went from bad to worse and showed a further decrease of 9,399 maunds. The report of the officer of the Geological Survey Department, deputed to survey the quarries, has not yet been received.

The price and duty of this salt remained the same, and there was no change in the area of consumption.

Sultanpur Salt Works.

337. The demand for the impure Sultanpur product in which an analysis made during the year found only 80·7 per cent. of sodium chloride, is felt only when better salt is not freely available. The outturn from 34 licensed works was 45,819 maunds, and the clearances only 23,922 maunds, the average sale price falling from Re. 1-0-8 to Re. 0-10-0 a maund.

Saltpetre.

338. Rs. 4,100 were realized on account of fees of 60 refinery and 1,218 crude saltpetre licenses issued in the Punjab. Of the 60 refineries licensed only 57 worked during the year.

The year's outturn of refined saltpetre in the Punjab was 1,49,174 maunds, and the quantity of purified salt educed in refineries amounted to 121 maunds and of *sitta* (impure salt) to 1,77,333 maunds, while 165 maunds of salt and 2,231 maunds of *sitta* were excised during the year and 181,390 maunds of *sitta* destroyed.

41.—Stamp Revenue.

Income.

339. Receipts under the Court-fees and Stamp Acts amounted to Rs. 77·93 lakhs as compared with Rs. 61·42 lakhs in 1918-19.

Judicial Stamps.

340. Of the total increase judicial stamps contributed Rs. 5·81 lakhs. This expansion was generally ascribed to enhanced litigation owing to good harvests and consequent prosperity. The money-lending classes, too, were busy realising the debts contracted during the war owing to the enormous rise in prices. The sale of stamps of high value in connection with applications for the grant of probate and letters of administration as well as for civil suits involving immovable property (the value of which has been appreciated so materially throughout the Province) was also a contributing factor. Special causes operated in Kangra where a number of boundary disputes were instituted at the close of settlement operations, and in Montgomery where the rapid development of the Lower Bari Doab Colony was followed by increased litigation.

Non-judicial Stamps.

341. The receipts from non-judicial stamps rose from Rs. 23·02 lakhs to Rs. 33·72 lakhs, the largest increase being under the head "Impressed Stamps." This was due to various causes; but by far the most important were the abnormal

rise in the value of landed property, both urban and rural, and the increased amount of speculation in both. The substitution of formal deeds for irregular account book entries under the persistent vigilance of courts was another notable cause. In Mianwali the increase is ascribed to the enhanced value of immovable property cis-Indus owing to the migration of large numbers of people from beyond the river and their settlement in the less-disturbed portions of the district. The income from *Hundi* stamps amounted to Rs. 71,000 against Rs. 60,000. But in certain districts Western methods of transacting business have ousted the *Hundi* from popular favour. For example, supply bills on other Treasuries and the Banks of Bengal and Bombay are freely issued from the Rawalpindi Treasury.

Miscellaneous.

342. At the suggestion of the Superintendent of Stamps, Karachi, all deeds of mortgage, conveyances, etc., requiring to be stamped with non-judicial impressed stamps of high values were stamped with impressed labels because of the diminution in the stock of non-judical impressed sheets of high values at Central Depôts, and the result of this action is to be found in a marked increase in the income from impressed labels. The increases under foreign bill and share transfer stamps were mainly due to large purchases by a Lahore bank. Lastly, the very considerable increase of Rs. 1·35 lakhs in the income from stamps for legal practitioners' licenses is to be ascribed to the constitution of the High Court resulting in the admission of the former Pleaders of the Chief Court as Vakils of the new Court. In other respects there is little to notice in the working of the Stamp Department, except that while greater alertness on the part of presiding officers of courts was reported in some districts of the Province no less than ten districts returned no cases under sections 32, 37, 40, and 41 of the Stamp Act.

Expenditure.

343. The expenditure rose from Rs. 2·37 lakhs in 1918-19 to Rs. 3·15 lakhs.

42.—Income-tax.

Collections.

344. On the 1st of April 1919 the total amount outstanding on account of arrears of previous years was Rs. 15·96 lakhs. The demand for 1919-20 was at first placed at Rs. 47·34 lakhs, but was

subsequently reduced to Rs. 44·85 lakhs of which 26·19 lakhs were collected to which must be added recovery of Rs. 14·30 lakhs on account of arrears. The total of these collections (double that of 1916-17) showed a rise of 16·3 per cent. as compared with collections in the previous year.

Sources of Income.

345. Incomes below Rs. 2,000 were exempted from income-tax from the 1st of April 1919. This resulted in a sacrifice of Rs. 7·80 lakhs plus an approximate increase of 25 per cent. by which the tax might have been expected to expand if the exemption had not come into force. The number of assessees benefiting by the exemption is estimated at Rs. 27,000.

General.

346. There were altogether six special agencies at work, *viz.*, one in each of the five divisions with an extra officer in the Lahore Division for Lahore and Amritsar cities. No work was done by any Special income-tax officer in Gurgaon, Simla, Kangra, Montgomery, Lyallpur, Jhang, Muzaffargarh, and Dera Ghazi Khan. The assessments made by the six special agencies secured an increase of Rs. 5·89 lakhs. The only decreases were in the Lahore and Amritsar cities, Rs. 18,328 and Rs. 96,923, respectively.

Working of the Act.

347. The new Act was, on the whole, understood somewhat better than previously, but the working adjustments and the taxation of incomes from house property and professional sources require greater attention.

The chief reasons why the prescribed returns are not filled in by assessees are summed up as follows :—

(*a*) The majority of the assessees, especially rural assessees, do not keep regular annual accounts and are really unable to fix the amount of the profit or loss in the preceding year on which the current year's assessment is based.

(*b*) There is a general impression that slight mistakes in the returns may render the assessee liable to a criminal prosecution. This impression acts as a deterrent, and it is considered safer to submit no return.

(*c*) In a large number of cases assessees do not disclose their income to avoid paying more. There undoubtedly exists a feeling that to declare an income of a certain amount is merely to invite a heavier assessment. Confidence in the assessing agency will grow in time.

(*d*) Many assessees have a genuine reluctance to divulging their investments and borrowings for fear of losing credit, and the assurance that the information would be kept strictly confidential has not so far succeeded in dispelling this apprehension.

43—Forest Revenue.

General Financial Results.

348. The revenue of the Forest year ending June 30th, 1920, was Rs. 40·75 lakhs and the expenditure Rs. 25·52 lakhs, yielding a cash surplus of Rs. 15·23 lakhs. The revenue and expenditure were classified as follows :—

Revenue.	Lakhs.	*Expenditure.*	Lakhs.
I.—Timber and other produce removed from the forests by Government Agency ...	24·81	A.—Extension, constitution, improvement, and exploitation of the forest property ...	18·67
II.—Timber and other produce removed from the forests by consumers or purchasers ...	7·66	B.—Administrative, executive, and protective charges ...	6·85
III.—Drift and waif wood and confiscated forest produce ...	1·01		25·52
IV.—Revenue from forests not managed by Government ...	0·03	Cash surplus ...	15·23
V.—Miscellaneous ...	7·24		
TOTAL ...	40·75		40·75

The revenue rose to Rs. 16·14 lakhs and the expenditure Rs. 6·60 lakhs. The increase in revenue was chiefly due to an increased outturn of timber and firewood sold at higher prices, larger sales of rosin and turpentine, and better prices realized for temporary cultivation leases.

Profits.

349. The true results of the year's working show a surplus of Rs. 23·33 lakhs, *viz.*—

	Lakhs.
Cash surplus	15·23
Add—	
Increase in value of stock	6·31
Capital expenditure, less interest	2·38
	23·92
Deduct—	
Decrease of outstanding revenue	0·59
TOTAL ...	23·33

44.—Provincial Revenue and Expenditure.

Balance Sheet.

350. The provincial share of the revenue raised and expenditure incurred in the Punjab with the opening and closing balances in each year are shown in the table below :—

(Figures in thousands of rupees.)

—	1918-19.	1919-20.	Difference between 1918-19 and 1919-20.
Opening balance	1,94,52	2,30,95	+36,43
Revenue	5,73,76	6,60,88	+87,12
Expenditure	5,37,33	6,31,90	+94,57
Closing balance	2,30,95	2,59,93	+28,98

The provincial balance includes 23 lakhs, being the unspent accumulation of the Imperial assignments for special purposes. The expenditure has again increased at a more rapid rate than the revenue, but it is a matter for congratulation that even without any recourse to increased

taxation there is an increase in the balance of 29 lakhs. The provincial finances are, however, at present in a somewhat fluid condition owing to the very large expenditure which has still to be faced in the direction of increased pay for establishments and to the impending financial settlement which will run with effect from 1st April 1921. Whether as a result of these and other factors an increase in taxation will be necessary remains to be seen, but there are many remaining sources of income which can be tapped without undue hardship to the tax-payers concerned.

Variations in revenue from previous year.

351. The important variations between the years 1918-19 and 1919-20 under the different heads of revenue are as follows :—

	(*Figures in thousands of rupees.*)
I—Land Revenue	+14·22
IV—Stamps	+ 8·26
V—Excise	+ 12·11
VIII—Income-tax	+ 3·68
IX—Forest	+ 16·92
X—Registration	+ 1·57
XVI-A—Law and Justice—Courts of Law	+ 1·64
XVI-B—Law and Justice—Jails	— 1·64
XVII—Police	+ 1·44
XXV—Miscellaneous ...	— 1·49
XXIX—Major Works—Public ...	+ 23·02
Indirect Receipts ...	— 5·52
Transfers ...	+ 12·35

The figures under I—Land Revenue contain large receipts which should be shown under XXIX—Indirect Receipts, but the separation is impracticable until the question of their exact apportionment is settled. The net increase

under these two heads is, however, extremely satisfactory in view of the prevailing agricultural conditions and is mainly due to the more extensive area under irrigation, though the large sales of Government estates and waste land in the canal colonies were also a contributing cause. Increased speculation, chiefly in respect of landed property, and the general development of business after the stagnation due to the war, are the causes of the large improvement under IV—Stamps. The widespread prosperity of the Province is reflected in the expansion in the Excise income, and the consumption of spirits and liquors exceeded the record figures of the previous year. The reconstruction of income-tax procedure by Act VII of 1918, the introduction of the assessing agencies, and the collection of large arrears (against which, however, have to be set off the exemption of incomes under Rs. 2,000 and the failure to collect the total year's demand) account for the increase under VIII—Income-tax. To better prices, recoveries of outstandings, and greater demand for firewood, timber, resin, and turpentine can be ascribed the improvement under IX—Forest. The number and value of deeds registered on the termination of the war and the poor *rabi* harvest are the causes of the increase under X—Registration. Fees and fines levied by courts account for the larger receipts under XVI-A—Law and Justice. With the termination of the war the indents of the Military, both for jail labour and manufactures, practically ceased, thus adversely affecting the receipts under XVI-B—Jails. The increase under XVII—Police is due almost entirely to recoveries on account of the punitive police who were stationed in various places as the outcome of the disturbances. The latter cause also affected the receipts under XXV—Miscellaneous, under which head the payments on account of damage to Government property were credited. The very large increase in the Direct Receipts under XXIX—Irrigation—Major Works is due (as already stated) to an exceptional demand in both harvests for water from the perennial canals. The decrease in the Indirect Receipts, as explained above, is nominal only. Large non-recurring grants towards the cost of the Chenab Bridge, agricultural education, the Publicity Committee, and the establishment of an institute at Mughalpura for training of mechanical engineers are the main causes of the increase in the Transfers.

352. On the expenditure side the chief variations between the figures of 1918-19 and 1919-20 are shown below :—

Variations in expenditure from previous year.

	(*Figures in thousands of rupees.*)
1—Refunds	1,00
3—Land Revenue ...	8,23
11—Forest	6,20
18—General Administration ...	2,15
19-A—Law and Justice—Courts of Law	7,10
20—Police	14,30
22—Education	3,70
22-A—Medical	2,36
24-B—Sanitation	1,88
26-A—Agriculture ...	4,09
30—Stationery and Printing ...	1,51
42—Major Works—Public ...	7,16
45—Civil Works—Civil ...	4,29
45—Civil Works—Public ...	27,86

The following causes are responsible for increases under practically every head :—

1. The doubling of the war allowance with effect from April 1st, 1919, for six months and the temporary allowance which was sanctioned by the Government of India with effect from October 1st, 1919, for all Government servants on pay of Rs. 75 and under.

2. The high prices of food-grains and the consequent high rates at which grain compensation allowance was drawn.

3. The revision of pay of some of the Services.

4. Increased contingent charges necessitated by the disturbance and the enhancement of postal rates from the 1st January 1919.

The apportionment of the charges due to the recent revision of the pay and the strength of the district establishment has now been made on the lines recommended by the District Establishment Committee and is the cause of variation under several heads, especially under those for Land Revenue, Excise, and Law and Justice.

In addition to these general causes some variations in certain expenditure heads are due to the special causes mentioned below.

Special causes for variations.

353. The increase under 1—Refunds and Drawbacks is mainly owing to larger income-tax refunds. The increased activities of the Forest Department, comprising extensive departmental timber exploitation works in Bashahr, Kulu, and Rawalpindi East Divisions, the extraction of a larger quantity of resin in the Rawalpindi Division, and the extension of the Jallo Factory account for the additional expenditure shown under 11—Forests. The pay of officers on special duty in connection with disturbances contribute to the increase under 18—General Administration and 19-A—Law and Justice—Courts of Law. A contributing cause of the increase under 20—Police is the revised system of apportionment of the cost of the Railway Police between Government and the Railway companies. The general extension in the activities of the Educational, Medical, and Agricultural Departments accounts for the expansion under these heads. Higher prices are the cause of the larger expenditure under 30—Stationery and Printing. In addition to the general causes, the increase under 42—Irrigation—Major Works is due to expensive repairs to canal banks necessitated by the monsoon floods and to a *pro rata* distribution of charges dropped under head 49—Capital owing to a decrease in expenditure under that head. Earlier sanction of estimates, more normal conditions, the return of many officers to civil employment, and the absence of any serious outbreak of influenza or other epidemics which in the previous year seriously affected the supply of labour enabled the Budget estimate under 45—Civil Works to be worked up to, and there were thus no lapses, as in previous years, to be set off against the increased expenditure due to an all-round rise in the price of material and heavy expenditure on various large works.

45.—Local Funds.

Income.

354. For the first time in the history of the Province the gross income of District Boards exceeded a crore of rupees, the figures being over 107⅔ lakhs which is Rs. 12¾ lakhs more than in the previous year. The local rate yielded Rs. 2 lakhs of this increase, the balance being, as usual, mainly the result of Government grants.

Expenditure.

355. Variations in income and expenditure under the more important heads have already been discussed in Section 24.

46.—Municipal Funds.

Income.

356. The gross income of municipalities during the year 1919-20 amounted to Rs. 106·29 lakhs. The income from taxation was Rs. 59·18 lakhs, out of which Rs. 53·14 lakhs was contributed by octroi; while Government grants aggregated nearly 10 lakhs. The incidence of taxation per head of population was Rs. 3-10-3.

Expenditure.

357. The total expenditure for the year was Rs. 97·07 lakhs, of which Public Instruction and Roads accounted for Rs. 8 and 7 lakhs, respectively. The cost of collection of taxes was Rs. 5½ lakhs. The closing balances were somewhat higher than last year. But the ambitious schemes of water-supply and drainage which are under consideration by several committees can scarcely be financed without very substantial aid from Government; and even with this assistance increased taxation will be required.

CHAPTER VI.

VITAL STATISTICS AND MEDICAL SERVICE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below:—

PROVINCIAL REPORTS.

Census—Report on the Census of the Punjab, 1911, by Rai Bahadur Pandit Hari Kishan Kaul, C.I.E.

Births and Deaths—Sanitation. Report on the Sanitary Administration of the Punjab and Proceedings of Sanitary Board for the year 1919.

Emigration—Census Report as above.

Medical Relief—Triennial Report of the working of the Charitable Dispensaries in the Punjab for the years 1917—19.

Report on the working of the Punjab Lunatic Asylum for the year 1919.

Vaccination—Report on Vaccination in the Punjab for the year 1919-20.

PUBLCATION OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume III—Public Health.

47.—Details of Census.

[*Vide* pages 157—67 of the Administration Report for the year 1911-12.]

48.—Births and Deaths.

General.

358. The roughly estimated population for the year 1919, prepared by the method described in the Report for 1918, works out to 20,435,917 (11,235,862 males and 9,200,055 females) as against the census population of 19,337,146 (10,608,101 and 8,729,045). Calculated on this estimated population the birth rate is 38·3, *i.e.*, 2·0 *per mille* less than the rate calculated on the census figures and similarly the death rate 26·8 is less by 1·5. In individual districts the rates calculated on the census figures are in excess in all districts except Gurgaon, Simla, and Dera Ghazi Khan.

A healthy year.

359. The year 1919 was exceptionally healthy. Omitting 1912 from consideration, the total death rate from all causes was lower than it has been since 1900. Cholera, small-pox, and "injuries" were the only causes of mortality showing an increase; while the reduction in the death rate from fevers on last year's figures is, no doubt, attributable to the absence of both malaria and influenza in an epidemic form.

Births.

330. The birth rate, although higher than that recorded last year, is not so satisfactory.

The total number of births registered during 1919 was 778,846, of which 413,018 were males and 365,828 females, the respective rates being 40·3, 21·4, and 18·9. The total rate shows an increase of 0·7 compared with last year and a decrease of 3·8 compared with the average for the previous five years. A comparison by districts with the quinquennial average discloses the fact that the rate in 1919 was less in all the districts of the five divisions excepting Mianwali in the Rawalpindi Division and Montgomery, Lyallpur, Jhang, and Multan in the Multan Division where it was in excess. The rate for Simla was equal to the quinquennial average. Compared with the previous year the rate was in defect in the whole of the Ambala and Jullundur Divisions, excepting the Gurgaon district; and in excess in the Lahore, Rawalpindi and Multan Divisions excepting Gurdaspur, Sialkot, and Gujrat districts. The birth rate for 1919 is simply the continuation of the history of the influenza epidemic of the previous year. The south-eastern and southern districts which suffered most from that epidemic show a decrease in the rate; and such decrease in a district is, generally, a fair indication of the severity of the epidemic.

The birth rate in the 38 municipal towns amounted to 45·6 *per mille*, which is higher than last year and the average for the previous five years. The highest birth rate was recorded in Montgomery where it was 50·7, and the lowest in Simla where it amounted to 21·1. Of the 28 districts in the Province 12 had a birth rate higher than the provincial rate of 40·3.

Deaths.

361. The total number of deaths during 1919 was 548,070, of which 291,266 were males and 256,804 females, the resulting rates being 28·3, 27·5, and 29·4. These are not much more than one-third the rates of the previous year and are well below the averages for the previous quinquennium. Of this death rate 18·9 or more than half were due to "fevers," 4·9 to "all other causes," and 2·0, 0 8 and 0·4 to respiratory diseases, smallpox and injuries, respectively. The marked decrease in the Provincial death rate is due to the diminished incidence of plague and fevers, which show rates of 0·6 and 18·9, respectively, as compared with 4·9 and 66·6 in the preceding year.

With the exception of Simla the death rate by districts was considerably lower than that of last year and the average for the previous five years. The highest death rate (39·0) was recorded in Gurgaon and the lowest (21·5) in Shahpur.

Monthly variations in health.

362. August, with a death rate of 1·72, was as usual the healthiest month of the year. The quarterly death rates were :—January—March 6·70, April—June 6·74, July—September 6·22, and October—December 8·67. The rates were, as usual, higher in the last (and malarial) quarter of the year owing to fevers; unhealthiness began in September with a death rate of 2·44, which rose to 2·90 in November.

Incidence of mortality.

363. As usual, infants under one year of age had the highest mortality, amounting to 184·15 for males and 170·10 for females, figures for the previous year being 248·83 and 235·91, respectively. Calculated on the number of births during the year the rates work out at 189·33 and 185·04 for males and females, respectively, as against 261·19 and 264·36 in the year previous. Next to infants old people of 60 and upwards suffered most, the rates for that age period being 66·49 for males and 64·94 for females. Children between one and five came next with rates of 49·12 and 50·30. The group between 50 and 60 disclosed rates of 28·28 and 27·26; in other groups the rate ranged between 8·87 in the 10—15 years group and 18·55 in the 40—50 years group. The mortality among females was higher than that amongst males in all the age periods except those under one year and between 40 and 60 and upwards.

The total mortality rate for infants under one year—177·29—is a fair index of the position of the Province in the scale of material civilisation, the corresponding English rate of 71 for the last quarter of 1919 constituting an instructive standard of comparison.

Classification of deaths by communities.

364. The total death rate for the whole Province under "Other classes" was 17·02 against 107·01 in the year preceding. The rates were for Muhammadans 28·32, Hindus 28·33, Indian Christians 31·32 as against 81·32, 80·09, 100·80 in the year preceding.

Urban death rates.

365. The urban rate, which was 33·95, exceeded the rural rate of 27·78 under all the heads of mortality except fever, for which the recorded excess against the rural circles was 3·72. This excess is due to mis-classification, deaths from plague being mostly returned under "fever." The rates recorded in the three largest towns—Amritsar (36·2), Multan (35·67), and Lahore (34·03)—are considerably less than those of the previous year and the average for the preceding five years.

Cholera.

366. Cholera was more prevalent than in the previous year, causing 8,561 deaths, as compared with 257. Deaths from this disease were registered in all districts of the Province except Simla, the mortality being greatest in the Attock District, *viz.*, 2,022; Lyallpur was next with 1,380. The disease made its appearance in April, in which month a mortality of 35 was recorded; this increased in May to 273 and in June to 1,436. The climax was reached in July with 3,762 deaths. The source of infection in the case of 373 deaths proved to be Hardwar, and in most places the outbreak of the disease was traced (as usual) to importation of infection from the centres directly infected from Hardwar.

Small-pox.

367. The small-pox epidemic, which had been widespread at the end of the previous year, continued to increase in 1919. It claimed 15,365 victims during the year, or 0·79 *per mille*, against the quinquennial average of 0·12. The mortality was higher than in the last five years, and no district was free from the disease. Of the deaths registered under this head 3,848 were under one year of age and 7,862 from one to ten years of age. The incidence of nearly two-thirds of the deaths among children under ten years of age points to neglect of infantile vaccination.

The mortality rate was as high as 2·64 *per mille* in Montgomery District, and as low as 0·03 in Muzaffargarh and Dera Ghazi Khan. The death rate in urban areas was 1·33 as compared with 0·74 in rural circles, and the average rate for towns in which the Compulsory Vaccination Act is in force was 1·14.

Plague.

368. The total number of plague cases and deaths in the Punjab during 1919 was 16,507 and 12,683, respectively, of which 1,891 cases and 1,594 deaths occurred in Native States. The most severely-

infected districts were Rohtak (3,228 deaths), Lahore (1,611 deaths), Ferozepore (1,152 deaths), and Montgomery (894 deaths). The Patiala State reported 1,083 deaths and Jind State 325 deaths. The bubonic kind of the disease prevailed, though small localised outbreaks of the pneumonic and septicæmic types occurred in eight districts. The case mortality was 71·2 per cent., which is the lowest figure reached during the past ten years, excepting 1917. Systematic rat destruction was continued as an anti-plague measure.

Fevers.

369. The total number of deaths recorded from fevers amounted to 3,65,045 (equivalent to a death rate of 18·88 *per mille* of population) as against an average number of "fever" deaths of 350,000 during the past fifty years (omitting 1918 on account of influenza). The districts exhibiting the highest "fever" death rate were Gurgaon 25·25 *per mille* and Karnal 24·94. The fever death rate in rural circles was 19·22 *per mille*, being higher by 3·72 *per mille* than the corresponding figure in urban areas. (The reason for this difference is given in paragraph 365 above.) It was slightly higher amongst females than amongst males, being 19·77 *per mille* in the former as compared with 18·14 *per mille* in the latter. The monthly incidence in the "fever" deaths exhibited no unusual feature. The months of October and November exhibited the largest number of "fever" deaths, whilst a smaller rise took place in the months of May and June.

Spleen census.

370. The spleen census of school children under ten years of age was carried out as usual in the months of June and November with the result that of 43,919 children examined in 1919 the spleen rate was found to be 10·1 per cent. as compared with 12·1 per cent. in November 1919, when 45,905 children were examined.

Influenza.

371. There being a probability of a recrudescence of influenza in the spring arrangements were made to organise measures against its spread, but fortunately, except for a few cases of a mild type, the Province remained free from the disease.

Other causes.

372. Deaths from dysentery and diarrhœa were 8,639 as against 10,358 in the previous year, and those from respiratory diseases amounted to 37,813, which is a decline from the figures returned in the previous year and on the quinquennial average. The total

number of deaths registered under "all other causes" was 94,683 at a rate of 4·90, which is the lowest on record since 1871.

49.—Emigration and Immigration.

373. There is nothing of special interest to report under this head. Certain modifications which were made in the General Passport Rules applied to the Punjab as to other Provinces.

50.—Medical Relief.

Dispensaries.

374. With the closure of six and the opening of 19 new dispensaries the total working at the close of the year was 504. A sum of Rs. 1·25 lakhs was allotted to local bodies and societies for the provision of new institutions.

Patients.

375. The number of in- and out-patients treated, thanks to the healthiness of the year, fell by 127,005 to 4,830,911. In-patients totalled 93,141 against 88,386 in the previous year. The number of patients of different classes treated in the public, local fund and private aided institutions in 1919 was :—

	(*In thousands.*)
Europeans and Anglo-Indians ...	7
Hindus	2,126
Muhammadans	2,419
Others	277

Statistics of diseases.

376. The principal diseases for which patients were treated in 1919 are shown below :—

	(*Patients in hundreds*).
Cholera	1,6
Dysentery	53,4
Enteric fever	2,7
Malaria	605,8
Rheumatic fever and rheumatism ...	75,9
Small-pox	9
Other tubercular diseases	4,9
Diseases of the eye	1,077,0
Diseases of the ear	382,0
Diseases of the nose	28,8
Dyspepsia	175,2
Diarrhœa	51,2
All other diseases of the digestive system	517,1
Ulcers	435,4
Other diseases of the skin ...	420,4
Injuries, general and local ...	212,4

Among the 113 patients admitted into hospital suffering

from cholera (which was considerably more prevalent than in 1918) the mortality was 56 per cent. A Rogers'-cholera apparatus has been supplied to every Civil Hospital at head-quarters and in the *mufassil* of which an Assistant Surgeon is in charge, as well as to each Police Hospital in the Province.

Small-pox, also, was severely epidemic throughout the year.

Departmental institutions.

377. The cases treated in Police, Canal, Railway, and other State special hospitals and dispensaries numbered 4,000 less than, in the preceding year.

Non-aided dispensaries.

378. At the ten private non-aided dispensaries which submitted their returns the number of patients treated fell off by more than 1,000, but operations performed rose by over 600.

Surgery.

379. There was an advance of nearly 19,000 in the total number of surgical operations performed, over 19,000 of which were for cataract. The district of Ferozepore easily out-distanced all rivals, returning over 10,000 more selected operations than the next highest district (Karnal).

Income and expenditure.

380. The total income of dispensaries of classes I, III, and IV was Rs. 20·5 lakhs against Rs. 17·3 lakhs in 1918. Government contributions amounted to Rs. 2·86 lakhs, or nearly 14 per cent.; those of local Funds to Rs. 7 lakhs and of Municipal Committees to Rs. 5·94 lakhs. The expenditure amounted to Rs. 18·4 lakhs.

Mayo Hospital.

381. The extension of the Mayo Hospital, Lahore, under the King Edward Memorial Scheme, having reached completion in 1918, the new wards and operating theatres were taken into use during 1919.

Female Medical Aid and Education.

382. The paucity of qualified medical women available has continued to be a serious obstacle to the extension of efficient medical aid to women by their own sex. A Government service for women Sub-Assistant Surgeons, which has recently been created, may possibly induce a larger number of young women to try for the M. P. L. diploma than

hitherto. Classes for the training of nurse *dais* and indigenous *dais* have been carried on at Hissar, Bhiwani, Ambala, Ferozepore, Ludhiana, Lahore, Jandiala and Asrapur, wholly or partly assisted by the Victoria Memorial Scholarship Fund.

Arrangements have been made for the establishment, in the Rawalpindi District, of an itinerating dispensary for women in charge of a European Lady Doctor. An endowment for this has been provided from the surplus of charitable funds collected in the district during the war.

War Hospitals.

383. The accommodation reserved for the overseas casualties in the Civil Hospitals at Karnal, Jullundur, Amritsar, Gurdaspur, and Lyallpur and at the Mayo Hospital, Lahore, remained at the disposal of the military authorities throughout the year and was utilised for the casualties from the expeditionary forces operating on the Frontier. The whole of it has been surrendered to the civil authorities since the close of the year.

Punjab Lunatic Asylum.

384. The daily average strength of the lunatics of the Asylum was 875 against a provision for 838. The maximum number of lunatics confined on any one night was 898, and the number under treatment at the close of the year was 857. The number discharged was 268; died 92. The health of the inmates was generally satisfactory, although influenza again made its appearance at the end of the year in a mild epidemic form, this time in the female side of the institution.

A project is under consideration to ameliorate the overcrowding in the male section by the construction of a separate enclosure for the criminal insanes. The acquisition of land for the extension of the Asylum with a view to prevent the spread of tubercle has been notified in the *Gazette*, and building operations will soon be commenced.

51.—Sanitation.

Village sanitation.

385. Few attempts were made to improve village sanitation, and these with but little zest. A separate Sanitary Inspector is employed by the District Board, Rohtak, solely to look after the sanitation of rural areas. In the Gurdaspur District fifteen villages

maintain conservancy establishment at their own expense. Out of a total income of Rs. 82·21 lakhs the municipalities of the Province expended a sum of Rs. 22·32 lakhs on sanitation and vaccination; but out of a total income of Rs. 94·90 lakhs the District Boards disbursed only Rs. 1·36 lakhs.

Sanitary Board.

386. The Sanitary Board met seven times during the year,—three times each in Lahore and Simla and once in Multan. The balance of Rs. 3·73 lakhs, left over from the grant made during 1918-19, was fully utilized, and out of the fresh grant of Rs. 4 lakhs, placed at the disposal of the Board for allotment during 1919-20, grants-in-aid aggregating Rs. 57,000 had been made up to 31st December 1919.

Drainage Board.

387. The Board is actively developing the general sanitation of urban areas, and now makes a practice of holding sessions in towns to discuss important questions with local representatives. This procedure assists the removal of misapprehensions and produces excellent educative effects, bringing home to Municipal Committees the fact that the Board is no mere academic institution. In regard to technical matters the Board is proceeding on certain well-defined lines of policy. The introduction of the water carriage system—the goal of all sanitarians—is being carefully and skilfully regulated under the Sanitary Engineer's guidance, and a start on really modern lines has been arranged for in a selected portion of Lahore. Water-supply problems have received much attention, and the Board has financed or is financing most valuable experiments. An outstanding example of the value of this policy is the solution of the extraordinarily difficult problem of the Ambala water-supply by the Sanitary Engineer's ingenious device of laying horizontal strainers in the bed of the Tangri River—a work for which all the funds have been supplied by the Sanitary Board. Arrangements for the detailed survey of the seven largest towns have been made, and the work will be undertaken as soon as the Survey Department can supply the staff. The Board has further adopted the policy of "conditioning" grants-in-aid in order to secure the best results and awake in Municipal Committees a full sense of their responsibilities.

52.—Vaccination.

Expenditure.

388. The cost of the department (including the Vaccine Institute) during 1919-20 was Rs. 1·63 lakhs, being an increase of Rs. 21,000 over last year's figures.

Operations.

389. The average cost per successful operation was Re. 0-3-5 higher than in previous years. The number of operations performed by all establishments during the year 1919-20 amounted to 9,28,822, showing a decrease of 65,771, compared with the previous year. There was an increase in primary vaccination and a decrease in re-vaccinations. The former was due to the employment of extra vaccinators and to the special efforts made to prevent the spread of small-pox. In explanation of the decrease in re-vaccination it is generally asserted that last year almost all school children were vaccinated; but the deficit is in no small measure due to lack of sustained effort. The Medical Department is notoriously over-worked at present, and the systematic appointment of District Health Officers responsible for vaccination operations should relieve the situation.

The percentage of success of the operations performed by all establishments combined was 97·95 in primary vaccinations and 76·18 in re-vaccinations.

Urban vaccination.

390. The number of infants available for vaccination in municipal towns was estimated at 62,653, of which 48,090 or 77 per cent. were successfully vaccinated. In the towns in which the Vaccination Act is in force 80 per cent. of the total number of children available were successfully vaccinated during the year as against 100 in 1918-19; while the percentage of successful vaccination to the total number of available children in towns in which vaccination is not compulsory works out to 63 as compared with 68 in 1918-19.

Punjab Vaccine Institute.

391. The total number of tubes issued by the Punjab Vaccine Institute was 49,507, the reduction in the quantity as compared with 1918-19 being almost entirely due to the lessened demand on the part of the Overseas Forces. Results were received for 27,519 tubes, showing that 708,835 primary vaccinations with an insertion success rate of 97·28 per cent.

and 263,908 re-vaccinations with an insertion success rate of 74·23 per cent. were performed.

In the last Report the necessity for extending the Murree depôt was referred to, and comprehensive proposals to this end have received the sanction of Government. The neighbouring property of "Green Villa" is in process of being acquired, and by next season construction work should be well forward.

Training Classes.

392. Eight classes for training vaccinators in the technique of vaccination and elementary hygiene, each lasting about a fortnight, were held in November to March to which vaccinators from seven districts were admitted.

CHAPTER VII.

INSTRUCTION.

DETAILED information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Education.—(1) Report on the Progress of Education for the year 1919-20.

(2) Report on the operations of the Department of Agriculture, Punjab, for the year ending 30th June 1920.

(3) Annual Report on the Punjab Veterinary College and the Civil Veterinary Department, Punjab, for the year 1919-20.

Arts and Sciences.—Report on the working of the Lahore Museum for the year 1919-20.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Education, Literature, and Press.—Statistics of British India, Volume V, Education.

Statistical Abstracts for British India, Volume IV, Administrative, Judicial, and Local Self-Government.

53.—General System of Public Instruction.

[*Vide* pages 173—184 of the Administration Report for 1911-12.]

54.—Education.

General Summary.

393. The number of public institutions has increased by 415 to 7,182 and the number of scholars by 32,644 to 464,272 (including 60,672 girls). Private institutions have expanded to 2,479 with an attendance of 53,717 scholars. There has been a marked rise in the number of agriculturists, especially in the Primary and Lower Middle grades.

The total expenditure from Provincial and Imperial revenues has increased from Rs. 56·70 lakhs to Rs. 64·13 lakhs : that from district and municipal funds

has also risen from Rs. 13·51 lakhs to Rs. 17·28 lakhs and from Rs. 5·40 lakhs to Rs. 6·94 lakhs, respectively. The fee income shows an increase from Rs. 29·05 lakhs to Rs. 31·19 lakhs. Grants of Rs. 19·63 lakhs and Rs. 2·30 lakhs, respectively, were made by Government to the boards and committees.

Salient features in annual progress.

394. The chief features of the period under review are :—

(*a*) *Primary education*—

(*i*) The Multan Municipality has decided to introduce the Punjab Primary Education Act in 1921.

(*ii*) Classes in all primary schools have been reduced to four, a reduction which affects statistics.

(*b*) *Secondary education*—

(*i*) Manual Training Centres have been established in various cities;

(*ii*) The scheme for agricultural education has made a satisfactory start;

(*iii*) To meet the intense demand for Anglo-Vernacular Education, substantial sums have been collected in various places for the teaching of English as an optional subject in Vernacular Middle Schools;

(*iv*) The new Matriculation and School-leaving Certificate examination has been introduced;

(*v*) A further revision of Subordinate and Provincial Educational Services has been undertaken;

(*vi*) An adviser in physical education has been appointed and arrangements made for the training of instructors and for the thorough revision of physical training in schools.

(*c*) *Collegiate education*—

(*i*) A committee appointed by Government to consider the Report of the Calcutta

University Commission has forwarded its recommendations for consideration by the Punjab University ;

(*ii*) Two Government Intermediate Colleges at Multan and Ludhiana commenced work in May 1920, and two others have been opened at Ambala and Rawalpindi ;

(*iii*) The Honours Schools of the Punjab University have begun operations.

(*d*) *Training and Inspection*—

(*i*) The staff of the Central Training College has been increased ;

(*ii*) A new training college has been opened at Lyallpur ;

(*iii*) Two new Normal Schools for men and one for women have been opened.

(*e*) *Technical education*—

(*i*) A Government Institute of Commerce has been opened in Lahore, which prepares students for the newly-established diploma in Commerce of the Punjab University ;

(*ii*) A scheme for an institution for training Mechanical Engineers at Moghalpura has received sanction ;

(*iii*) The Government School of Engineering, Rasul, has passed from the joint control of the Director of Public Instruction and of the Chief Engineer (Roads and Buildings Branch) to the sole charge of the latter.

(*f*) *Education of Europeans*—

(*i*) The entire curriculum of European Boys and Girls' schools has been revised on the lines recommended by the two conferences held at Simla and Lahore ;

(*ii*) The system of scholarships in European schools has been modified and extended ;

(*iii*) A uniform system of physical training is being introduced. Three classes for teachers were held in the year.

(*g*) *General*—

(*i*) The scheme for the provision of free education to the children of deceased and incapacitated Indian soldiers has been extended to include the children of all Indian soldiers who were on the active list between August 4th, 1914, and November 11th, 1918, and are in indigent circumstances ;

(*ii*) The provision of libraries in the smaller municipalities have been undertaken and funds assigned for the purpose.

Controlling agencies.

395. At the beginning of November 1919 Mr. J. A. Richey went on leave and was succeeded by Mr. W. T. Wright as Director at the end of that month. Mr. Towle, the Assistant Director, held *ad interim* charge of the office. In March last Mr. Richey was recalled from leave to take up the appointment of Educational Commissioner with the Government of India. Lieutenant-Colonel J. Stephenson, C.I.E., I.M.S., Principal, Government College, and Sardar Bahadur Bhai Hari Singh, of the Indian Educational Service, retired during the year under report.

The new appointments to the Indian Educational Service during the year include Mr. D. Reynell, M.A., B.C.L., formerly of the M. A.-O. College, Aligarh, as an Inspector of Schools ; Messrs. Armstrong, Sondhi and Atma Ram confirmed ; and Mr. Maqbul Shah promoted in place of Sardar Bahadur Hari Singh. The revised terms for the Indian Educational Service came into force on December 1st last.

District Boards.

396. The increased expenditure by District Boards indicated in paragraph 393 above has led to improvements both in the schools and the pay of the teachers. The apparent apathy in building is largely due to the enormously-increased cost of labour and material. The more generous terms for building grants recently offered by Government should have some remedial result, but it is clear that local authorities have not yet

adjusted their ideas or their finances to the great change that has occurred in money values. Meantime, a provincial grant of Rs. 3·5 lakhs has, since the close of the year, been distributed amongst the District Boards in building grants.

Municipalities.

397. The activity of private agencies has led, in some cases, to undesirable competition. Experience shows that excessive facilities for Anglo-Vernacular education to the neglect of the more fundamental and important vernacular produce a waste of funds and foster an unhealthy tone.

Collegiate Education.

398. The total number of students in colleges has shown no tendency to increase since 1917—indeed, there were actually 17 less students in 1920 than in 1918.

Grants have been promised to the University by Government for the following purposes:—(*a*) The salary of the Professor of Zoology; (*b*) the salary of the Professor of Physical Chemistry and the recurring expenditure of the proposed Laboratory; (*c*) the construction of the Chemical Laboratory (estimated at Rs. 3 lakhs). The University received, under the will of the late Mrs. Sinha, an endowment of half-a-lakh of rupees for a lectureship in Mathematics. The Government College League of Order did useful propaganda work.

The Forman Christian College has established a Co-operative Store, where a student can get a good lunch at a reasonable price. A Junior Anglo-Vernacular training class for teachers has been opened during the year in connection with the Khalsa College. The Lal Chand Memorial Library has been a valuable addition to the Dayanand Anglo-Vedic College. The Guru Nanak Khalsa College, Gujranwala, with 51 students, has completed its new science block and commenced the teaching of science subjects this year.

Secondary Education (Boys).

399. The number of recognised secondary schools for boys rose from 545 to 828 with an attendance of 163,899 scholars. This expansion of over 48,000 is largely due to the new scheme of classification whereby institutions of the vernacular lower middle grade have replaced several of the old five class primary schools. In all five divisions there is a satisfactory increase in the pupils drawn from agriculturist classes.

The total direct expenditure rose by about 25 per cent. to Rs. 40·92 lakhs, of which sum Rs. 16·76 lakhs were derived from fees and Rs. 5·89 lakhs from private sources.

The number of teachers in secondary schools was 7,659, of whom 5,177 are trained or certificated.

400. With the institution of the Matriculation and School-leaving Certificate Examination, subjects of practical utility, such as shorthand, type-writing, book-keeping, science, agriculture, etc., have attained a more prominent position, and a School Board has been constituted to deal solely with this examination. The introduction of English from the fifth instead of the fourth class was another important change of the year. The demand for English is so insistent that special classes for boys taking this language as an optional subject have been opened in a greatly-increased number of vernacular middle schools. The use of the vernacular as the medium of instruction is stated to be marked by encouraging progress, boys evincing a firmer grasp of the lessons taught and the teacher's task being sensibly lightened ; but the teaching of vernacular languages generally needs improvement.

Special forms of education.

401. Anglo-Vernacular schools have begun to send up boys for the vernacular final examination. Manual training centres have been established at some places ; that at Rawalpindi being a flourishing one with 550 boys from six local schools. Several schools in the Ambala, Jullundur, and Lahore Divisions have commenced agriculture. The opening of a training class for agricultural teachers at the Lyallpur Training College, in connection with the Lyallpur Agricultural College, is already supplying a number of qualified teachers. The main obstacles to the rapid development of the scheme of Agricultural education appear to be difficulties over the acquisition of land and finance, though a generous grant from the Imperial Government has eased the situation.

Revision of pay of services.

402. The scheme revising the pay of the Provincial Educational Service has recently been sanctioned (as from April 1st, 1920), and that for the revision of pay of the Subordinate Educational establishment is before Government. From October 1919 a temporary allowance of Rs. 20 per cent. was granted to every member of this service.

New Schools.

403. At Moga, owing to the generosity of His Highness the Maharaja of Patiala, a fine new Khalsa High School has been erected. Twenty-four other schools are extending their buildings.

Miscellaneous.

404. The new standard rules for Provident Funds, mention of which was made in the last year's report, are proving popular, and have already been adopted in many schools. School Co-operative Societies are making strides, and the enthusiasm with which headmasters are taking to this scheme augurs well for the success of the movement. The number of hostels attached to all kinds of schools has arisen by 38 to 490. Boarders have increased by 2,207 to 19,359. The increase is most marked in board and unaided schools. The expenditure has risen to Rs. 3·27 lakhs, of which nearly a quarter is met from provincial revenues and one-third from fees.

Primary Education (Boys).

405. Three important steps have been taken in this connection, *viz.*, (*a*) the introduction of the scheme creating the four-class type of primary schools which is now complete; (*b*) the opening of lower and upper middle schools in selected areas; (*c*) a more effective absorption of aided elementary schools.

The new primary schools opened by the local boards in pursuance of the programmes of expansion number 254, of which Multan claims no less than 72.

Progress.

406. The net loss of eight schools and 18,333 scholars shown is due to the transference of 316 flourishing primary schools to the list of secondary schools under the new scheme on their being raised to the lower middle grade. The total expenditure on primary schools rose by Rs. 1·17 lakh to Rs. 19·81 lakhs. Of 7,529 teachers in primary schools of all kinds 4,763 are trained and certificated.

Miscellaneous.

407. The Lahore and Amritsar Committees are interesting themselves in the re-organization of elementary education in these cities as a preliminary to the introduction of compulsion. Lahore has engaged the services of a competent superintendent, and Government has placed at the disposal of the Amritsar Municipality the services of an Assistant District Inspector for the purpose of carrying out an educational survey. Attock and Shahpur in the Rawalpindi Division and

Hoshiarpur, Ludhiana and Ferozepore in the Jullundur Division are the only districts in which the important problem of providing adequate school building is receiving satisfactory treatment. Government, however, now undertakes to bear from 75 per cent. to 100 per cent. of the cost of new buildings which will bring much-needed relief. A standard plan for cheap and efficient primary school buildings has been circulated for the information and guidance of Inspectors and local authorities.

Jullundur Division has eight night schools, of which four are in the Ferozepore District.

Training of Teachers.

408. There were 1,361 men and 329 women teachers under training as compared with 593 men and 51 women ten years ago. The number of Government Normal Schools for men rose from 12 to 14; and one new Government Normal School for women was opened. Special mention should be made of a train ng class for ex-soldiers opened at Gujar Khan, in the Rawalpindi District. A revised curriculum has been introduced in Normal Schools, greater attention being given in the new courses to geography, arithmetic, and nature study; while a new syallabus of lectures on hygiene has been prepared. There is a steadily growing interest in school gardens; and village games seem to be ousting cricket and football in popularity.

409. At the Lahore Normal School for Women special attention has been given to nature study, invalid cooking, home nursing, and first aid. In Ludhiana and Rawalpindi the students show great interest in the classes for general reading. In Multan the headmistress is developing the artistic side. The girls there are said to show a natural taste for beauty of line and form.

The qualifications of the candidates for admission to the Central Training College show an improvement; of 35 in the Senior Anglo-Vernacular class 30 being graduates.

410. To increase the supply of Senior Vernacular teachers senior vernacular classes were opened in the Normal Schools at Jullundur, Karnal, Sargodha and Multan in September last, and the Senior Vernacular Training College at Lyallpur replaced the Senior Vernacular class that formerly existed in the Central Training College, Lahore.

The training class for Kindergarten teachers at St. Denys' School, Murree, made a successful beginning with six students, who took the examination of the Bombay Education Department at the close of the course. This examination is recognised by the Punjab Department.

Professional, Technical, and Special Education.

411. The total number of students in the Medical College was 342 and in the Medical School 412. The candidates from the Punjab Medical School for Women (Ludhiana) in the first, second, and final certificates examination all passed.

The number in the Mayo School of Arts again shows a decline from 231 to 195. The chief cause appears to be enhanced cost of living. The class for the training of architectural draftsmen opened last year as an experiment has proved successful. In the Lyallpur Agricultural College there were 268 applications for admission against 223 in 1918; moreover, the standard of applicants has also risen, two-thirds of the admissions being first-class Matriculates. Work with the teachers' class for preparing agricultural teachers for high schools continues successful.

412. There is a fair increase in the number of girls under training in industrial schools, but a decrease of 815 in the number of boys is to be regretted. The system of grants-in-aid to these schools has been revised, and courses in the wood-work, metal work, and drawing by Mr. L. Heath, Principal, Mayo School of Arts, Lahore, will come into use this year. The Railway Technical School, Lahore, continues to do good work. The School for the Blind, Lahore, has recently been provided with a boarding-house. The School for Disabled Soldiers at Lahore has 39 men on its books, of whom two are blind. The latter are being taught hand work in the School for the Blind. The remainder of the class is taught to drive, clean, and overhaul motor cars.

413. The Government Post-Matriculate Commercial Class, opened at Amritsar in 1918, was transferred to the new Government Institute of Commerce at Lahore, and a special library grant of Rs. 2,500 was sanctioned at the close of the year. Stenography, an optional subject, has been taken up by all the students in appreciation of its market value.

Female Education.

414. The number of girls' schools has increased by 54 to 1,074. The advance is mainly in primary schools, but every type of schools contributed. There are now ten high schools and 65 other secondary schools. The expenditure on girls' schools shows an advance of Rs. 76,000 to Rs. 8·16 lakhs.

The numbers in the Kinnaird College rose from 30 to 38; 4 out of 5 candidates passed the B.A. and 10 out of 11 the Intermediate examinations. The staff has been strengthened by the addition of three lecturers, while further efforts are being made to improve the standard of physical and social recreation. Queen Mary's College (where the total number on the rolls continues to increase) also sent up two candidates for the Intermediate examination, both of whom passed, and the Convent of the Sisters of Charity prepared three candidates privately, two for the Intermediate and one for the B.A. All three were successful. In connection with the training of women teachers mention may be made of the excursions to mills, salt mines, and canal works; also to the Infant Welfare Exhibition at Delhi.

Among aided schools the Sikh Kanya Maha Vidyala, Ferozepore, and the Kinnaird High School, Lahore, merit special mention for their good work.

Education of Europeans.

415. The number of European public schools has risen from 14 to 15. Of the total number of 221 teachers 156 were trained and 18 graduates. Provident funds are universal; and salaries have been raised in almost all schools.

Including the figures for private, *i.e.*, unaided and uninspected schools the total number of pupils is 3,069. The direct expenditure on European schools amounted to Rs. 4·59 lakhs, comprising the following items:—

Imperial and Provincial funds	...	Rs. 2·62 lakhs.
Fees ...	...	Rs. 1·62 lakhs.
Other sources ...	...	Rs. ·35 lakh.

Bishop Cotton School, Simla, has revived its laboratory; the Cathedral High School for Boys, Lahore, has also opened a small laboratory; and plans are now under consideration for laboratories, manual training, and

drawing schools at Ghoragali, where also a training class for teachers of domestic science is to be established. Of 104 scholarships given 37 were won by boys and 67 by girls. The expenditure under this head amounted to Rs. 11,047. In the last two years the whole system of scholarships has been revised.

416. Courses in English, history, geography, arithmetic, and French have been greatly improved. Further, a more vocational trend has been given to the training by the introduction of type-writing and shorthand as optional subjects in the high school examination and by the complete overhauling and extension of the domestic science and needlework courses for girls. Scientific physical training has undergone a transformation, thanks mainly to Mr. R. Sanderson, who held three special courses for teachers in the year at Sanawar, Simla and Lahore.

The number of boys and girls proceeding to Universities or professional training institutions has slightly increased. Owing largely to the generous and zealous work of the Revd. O. Younghusband the Younghusband Collegiate Hostel, Lahore, is now in being.

Education of special classes.

417. A most satisfactory increase has occurred in the number of Muhammadan boys at schools, and the percentage of pupils belonging to this community in the secondary stages of education is as follows :—

Secondary Schools.	High Stage.	Middle Stage.
31·19	24·25	32·39

In the Aitchison College the financial situation is unsatisfactory. Fees realised were Rs. 7,000 short of the Budget estimates, while expenditure had increased, resulting in a considerable deficit.

Education of low castes.

418. The Ambala and Jullundur Divisions report increases in the number of low caste children reading in ordinary schools, and the Lahore Inspector comments on the number (175) of boys of other communities attending these low caste schools as compared with 508 low caste children. In the Multan Division the village schools appear to absorb the low caste children without difficulty.

Text Book Committee.

419. Of the 287 books considered by the Committee 116 were approved for one educational purpose or another. A revised list of authorised text-books will be published in the current year. The issue of revised editions of text-books continues, and steps have been taken on the representation of the Committee to put a stop to the use of unauthorised publications in schools.

The Committee, in pursuance of its decision that too much is spent on journals and magazines for schools and too little on books, will in future restrict the allotment of funds for the former to one-third. Only one book was adjudged worthy of a prize from the "Patronage of Literature Fund." The library was increased by nearly 200 books, while the issues to readers nearly doubled those of the previous year. The museum has been overhauled, and now contains only modern maps, charts, apparatus, etc., and is open during office hours to teachers.

The work of the sub-committees on the standardisation of technical terms in Urdu has been completed, and other sub-committees have commenced work on the same lines for Punjabi.

55.—Literature and the Press.

Literature.

Decline in output explained.

420. The regrettable decrease in the number both of books and periodicals published may be ascribed on the one hand to the dearth of paper and increase in the cost of production, and on the other to a change for the worse in the taste of the reading public. Sensational news about current events, adverse criticism of measures taken by Government during the past year, both before and after the disturbances, reproductions of fiery speeches by political agitators, and matter of a like ephemeral nature seem to appeal more to the popular imagination than useful information and knowledge of a permanent interest imparted by good books and magazines. Further, authors and publishers prefer smaller books than before in order to command a readier sale.

Punjabi, again, claims the largest number of publications.

421. Poetry and Religion absorbed about half the publications; Biography declined from 28 to 14, while Fiction rose from 43 to 55, and Art, Philosophy, Science, and Voyages and Travels continued to be poor. A few small books on "Politics" dealt with the Punjab disturbances, the nature and necessity of the Rowlatt Act, India's part in the Great War, the duty of the people to keep order, the dangers of the Passive Resistance movement, Sir Syed Ahmad's political ideas, the future of Turkey (against the Khilafat), German intrigues and Britain's political relations with Afghanistan.

Subject matter of publications.

On the whole, the year's output was inferior in quality and quantity to that of the preceding year.

PRESS.

422. There were 276 (as against 264 in 1919) newspapers and periodicals of all kinds published in the Punjab during the whole or part of the year under report. The number had fallen to 216 by the end of the year. Of these 276 newspapers, 178 were in Urdu, 58 in English, 26 in Gurmukhi, 10 in Hindi, 3 bi-lingual, and tri-lingual. The number of daily newspapers was 22, weekly 79, and monthly 141, the remainder appearing at irregular intervals. Of the daily newspapers 4 were in English, 1 each in Hindi and Gurmukhi, and the remaining 16 in Urdu, of which 1 was owned and edited by an Indian Christian, 8 represented the Hindu and 4 the Muhammadan community: the remainder were war publications.

Newspapers.

One hundred-and-sixty-two newspapers and periodicals were published in Lahore and 43 in Amritsar. Other centres of journalistic activity were Simla (14), the Gurdaspur District (10), Ferozepore (7), Sialkot (6), Gujranwala (5), and Rawalpindi, Gujrat and Lyallpur (4 each).

423. The combined circulation of the whole Punjab press is estimated at 342,354 copies, as compared with 320,000 and 246,000 in 1918 and 1917, respectively. The following were the more im-

Circulation.

portant newspapers in the Province :—

English.

1. *Civil and Military Gazette* (English, daily).
2. *Tribune* (Hindu, daily).
3. *Liberal* (Hindu, weekly).
4. *Panjabee** (Hindu, daily)
5. *Khalsa Advocate* (Sikh, weekly).
6. *Bulletin Weekly** (Hindu, weekly).

Vernacular.

(*a*) **Urdu.**

7. *Himala* (Hindu, weekly)
8. *Partap* (Arya, weekly).
9. *Paisa Akhbar* (Muhammadan, weekly).
10. *Insaf** (Hindu, daily).
11. *Loyal Gazette* (Sikh, weekly).
12. *Parkash* (Arya, weekly).
13. *Arya Gazette* (Arya, weekly).
14. *Vakil* (Muhammadan, bi-weekly).
15. *Al-Munir* (Muhammadan, weekly).
16. *Akhbar-i-Am* (Hindu, weekly).
17. *Leader* (Hindu, daily).
18. *Khalsa Akhbar* (Sikh, weekly).
19. *Paisa Akhbar* (Muhammadan, daily).
20. *Desh* (Hindu, daily).
21. *Ahl-i-Hadis* (Muhammadan, weekly).
22. *Rajput Gazette* (Hindu, weekly).
23. *Victoria Paper* (Hindu, weekly).
24. *Aftab* (Muhammadan, daily).
25. *Siyasat* (Muhammadan, daily).

*Has since stopped publication.

26. *Al-Fazal* (Ahmadia, bi-weekly).
27. *Brahman Samachar* (Hindu, weekly).
28. *Shanti* (Hindu, weekly).
29. *Watan* (Muhammadan, weekly).
30. *Kashmiri Magazine* (Muhammadan, weekly).
31. *Public* (Hindu, daily).
32. *Sanatan Dharm Parcharak* (Hindu, weekly).
33. *Jat Gazette* (Hindu, weekly).

(*b*) **Gurmukhi.**

34. *Khalsa Samachar* (Sikh, weekly).
35. *Panth Sewak* (Sikh, weekly).
36. *Panch* (Sikh, weekly).
37. *Punjab Darpan* (Sikh weekly).

Of these the circulation of Nos. 2 and 7 was claimed to be above 6,000 copies; of No. 8, 6,000; of No. 9, above 3,500; of No. 34, 3,500; of No. 1, above 3,000; of Nos. 10 and 11, 3,000; of No. 12, above 2,500; of No. 13, above 2,000; of No. 35, 2,000; of Nos. 14 and 15, between 1,500 and 2,000; of Nos. 16 to 22, above 1,000; of Nos. 3, 23 to 25 and 36, 1,000; and of the rest, between 500 and 1,000.

Executive action.

424. The declarations filed under section 4 of Act XXV of 1867 during the year numbered 32 and under section 5 of the Act 190. Security was demanded on 35 occasions by District Magistrates. These demands were made either on original declaration or on redeclaration or by varying previous orders. No demand was made by the Local Government. Action under the Defence of India (Consolidation) Rules, 1915, consisted in the imposition of censorship on the whole press in respect of references to the April disorders and on seven newspapers of Lahore and Amritsar for a longer period. Exclusion orders under the Act were issued against one Calcutta, five Delhi, and seven United Provinces newspapers, and also to an Allahabad Company of publishers against sending any copies of the *Independent*. There were three prosecutions of Punjab editors under Rule 25-A of the Act. One newspaper editor was prosecuted under Section 124-A of the Indian Penal Code.

Formal warnings were administered, through District Magistrates, to newspapers and periodicals as follows :—

(*a*) Six for publishing articles open to exception on political grounds ;

(*b*) Nine for writings calculated to arouse sectarian feeling or religious animosity ;

(*c*) One for publishing matter of an alarmist character ;

(*d*) Four for various other reasons.

Twelve publications were proscribed under section 12 (1) of the Indian Press Act (I of 1910).

One prosecution was instituted under section 3 of Act XXV of 1867. Nineteen warnings were also given under this section.

56.—Literary Societies.

[*Vide* pages 196 and 197 of the Administration Report for the year 1911-12.]

57.—Art and Sciences.

Lahore Museum.

Exhibition

425. The new empty gallery was used for the exhibition of British and Indian Arts and Crafts for 21 days. The total income from the exhibition, including 10 per cent. commission on sales, amounted to Rs. 1,382 against an expenditure of Rs. 607. The exhibition of Punjab Industries and Arts and Crafts in this gallery will be made permanent.

Buildings.

426. The Lahore Site Committee have agreed to reserve the site now occupied by the Public Library for the future extension of the Museum. Repairs to the roofs of some of the galleries will have to be undertaken in the ensuing year.

Visitors.

427. The number of visitors sank to 391,600, with the daily average of 1,119, as against 512,385 and 1,463, respectively, in the previous year. This reduction in the record is attributable to the disturbed state of the Province for some weeks in the spring. The largest attendance was 4,536 on the 3rd of April 1919. The total number of *purdah nashin* ladies during the twelve Zenana days was 7,556.

Educational work of the Museum.

428. Twelve lectures were delivered, as usual, during the cold weather. The average attendance was 149 against 164 in the previous year. Lantern slides were lent to lecturers throughout the Province, North-West Frontier Province, and Delhi.

Wednesday continued to be observed as Students' Day.

Acquisition.

429. Two Tibetan banners, a Nepalese gilded brass image of Vishnu, and a South Indian brass lamp (Dwipa Lakshmi) were purchased. Four gold, 32 silver, and 22 copper and mixed metal coins were presented by various Local Governments and Native States. A rare specimen of a Kashmir embroidered shawl and a selection of modern Moradabad *lac* inlay brass work were purchased from Lucknow. Among other purchases mention may be made of a Bokhara (Tekke Turkman) rug of fine design, colour and texture, two *phulkaris* and an illuminated and illustrated Nava Chakra Vidhana of the Tantrikas—a Kashmir work of the middle 19th century.

Some old Indian paintings—1 Indo-Persian, 6 *Tibitt* pictures, and four modern Indian paintings by the artists of the new Calcutta School of Painting—have been purchased for the Picture Gallery.

Loan collection.

430. The Afghan guns received from the Deputy Commissioner, Lahore, were returned to the Military authorities. Two Tibetan manuscripts loaned by Mr. A. St. G. Lyster were returned to the owner.

Work done in the Museum.

431. The renewal of labels has been taken in hand and should be finished in the course of the current year. Brass, copper, and *papier mache* objects in the Archæological section are being arranged and labelled. Some of the textile fabrics have been properly repaired. The Ornithological collection has been disinfected for preservation purposes.

Finance.

432. The expenditure amounted to Rs. 13,191.

CHAPTER VIII.

ARCHÆOLOGY.

Detailed information on the subject of this chapter will be found in the annual progress reports of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, Lahore, and of the Superintendent, Muhammadan and British Monuments, Northern Circle, Agra, for the year ending 31st March 1920, and in the Administration Report of the Buildings and Roads Branch, Public Works Department, Punjab, for the year 1919-20.

58—Archæology.

Hindu and Buddhist Monuments.

433. During the year the expenditure on special works of conservation of the Hindu and Buddhist monuments in the Punjab amounted to Rs. 3,168 ; the expenditure on annual repairs to Rs. 864. The only works of the former class that deserve special mention are those carried out at the temple and gateway at Malot and the temple in the Hindu fort at Amb in the Salt Range. The repairs effected at Malot completed the conservation of the plinth of the temple and the clearance of surrounding *débris*. The acquisition of the mounds at Harappa in the Montgomery District, for purposes of archæological exploration, has been effected and the actual work of excavation will be taken in hand in due course. Proposals have also been submitted to Government for the acquisition of the mound, known as Raja Karna-ka-Qila, at Thanesar, in the Karnal District, which bids fair to yield valuable relics.

Muhammadan and British Monuments.

434. A sum of Rs. 31,658 was expended on Muhammadan and British Archæological works in the Punjab, of which Rs. 20, 170 was spent on special works (including Rs. 500 for the acquisition of the land on which the Begum-ki-Sarai at Attock is situated), and the balance on the annual maintenance of monuments. This account does not include the sums expended on the upkeep of the gardens connected with historical monuments which

add so greatly to the interest of the monuments or are themselves of a historical nature, such as those at Jehangir's and Nur Jahan's tombs and the Akbari Sarai at Shahdara, the Hazuri Bagh, and Shalamar Garden. Even allowing for the increased expenditure since last year of Rs. 5,536 on Muhammadan and British monuments, the total falls considerably short of the average expenditure for the five years before the war, which amounted to Rs. 65,678. Moreover, owing to the increase of rates the cost of labour has greatly affected the amount of actual work completed, with the result that this was little more than one-quarter of what used to be done before the war.

435. At Hasan Abdal, in the Attock District, funds were given by the Government of India for the conservation of the "Hakim's Tomb" adjoining the walled enclosure surrounding the tomb of Lala Rukh, the supposed daughter of Aurangzeb. The work taken in hand consisted of repairs to the stone platform and to the building itself. Two tanks near by were cleaned out, repaired, and cleared of trees and jungle. This spot used to be one of the halting-places of the Moghul court when travelling to and from Kashmir, and it was then said to be a beautiful garden. A stream of clear water flows by the side of the two tombs, and with this as a nucleus it is proposed to restore the place from the barren wilderness that it now is to something resembling its old beauty. The only large work that has been in progress this year is the conservation of the compound walls of the tomb at Shahdara, near Lahore, containing the remains of Asaf Khan, minister of the Emperor Jahangir. Of the estimated cost of Rs. 38,549 only Rs. 13,200 were expended, the work consisting chiefly in under-pinning, re-facing where bricks had fallen out, buttressing, and generally putting into good order the surrounding wall which adjoins the Akbari Sarai whence entrance is gained to Jahangir's tomb enclosure. Asaf Khan's tomb itself was repaired several years ago, but the large compound remained neglected and overgrown with jungle. There yet remain the conservation of the brick platform on which the tomb stands and the brick pathways and the general laying out of the garden.

436. The construction of a monument to mark the site of the Buddhu-ka-Awa (Buddhu's kiln) was brought to completion. Buddhu was the brick-maker at the court of

Jahangir, and his tomb—a small *chattri* in a ruinous condition—is close to the new monument which is situated on the Shalimar road. At Sheikhupura special repairs to the large masonry tank, the pavilion in the middle of it, and the Munara were completed. This work, although of considerable extent, has all been of a straightforward nature, involving little or no details. There yet remains to be undertaken a scheme for the lay-out of the surroundings to the tank, the planting of trees and shrubberies, and construction of a driving road. The whole site, which is about two miles from new District Head-quarters, should form an amenity to the new station. A sum approximating Rs. 8,000 was expended on the maintenance of archæological buildings in and round Lahore.

CHAPTER IX.

MISCELLANEOUS.

59.—Ecclesiastical Jurisdiction.

(For this section reference should be made to pages 201—207 of the Report for 1911-12.)

60.—Ecclesiastical.

437. During the year under report the Bishop of Lahore was obliged to be on furlough for seven months, and the charge of the Diocese was held by the Archdeacon of Lahore as the Bishop's Commissary. The Triennial visitation of the clergy, postponed from the previous year, was held in Lahore in February.

Four new chaplains were appointed to the establishment, taking the places of three retired on pension and one resigned. The demand for chaplains to serve with troops in the Afghan War and on the Frontier made it extremely difficult to meet the ordinary needs of the Diocese during the summer of 1919.

61.—Stationery.

438. The value of stationery supplied during the year under report was Rs. 4,51,913, exhibiting an excess of Rs. 1,842 over the allotment. Compared with the expenditure of the preceding year it shows an increase of Rs. 61,361, and an increase of Rs. 1,19,321 over 1918-19. Much of the addition was due to paper required for the lithographing of patwaris' and kanungos' forms.

62.—Punjab Government Press.

439. The year was a period of general industrial unrest, but except for a short strike of piece-work distributors no serious dislocation of work was occasioned. There is a great scarcity of skilled labour, especially in the composing department, and each year it is becoming more difficult to get trained compositors, while new candidates for training are not coming forward.

Labour.

Finance.

440. The value of printing executed by the Press was the largest on record, being almost Rs. 30,000 in excess of the previous year. The revenue from sale of Government publications, advertisement charges, etc., was also more than doubled—Rs. 33,955 against Rs. 15,937 in 1918-19. This increase was, to some extent, due to the publication by the Press of the Indian Law Reports, Lahore Series.

General expenditure, exclusive of the cost of printing, paper and binding materials, amounted to Rs. 2·65 lakhs against Rs. 2·56 lakhs in the preceding year. There being no increase in establishment the additional work involved a greater expenditure on overtime.

Temporary allowances were sanctioned from the 1st October 1919 for all non-gazetted employés of the Press drawing less than Rs. 400 per mensem.

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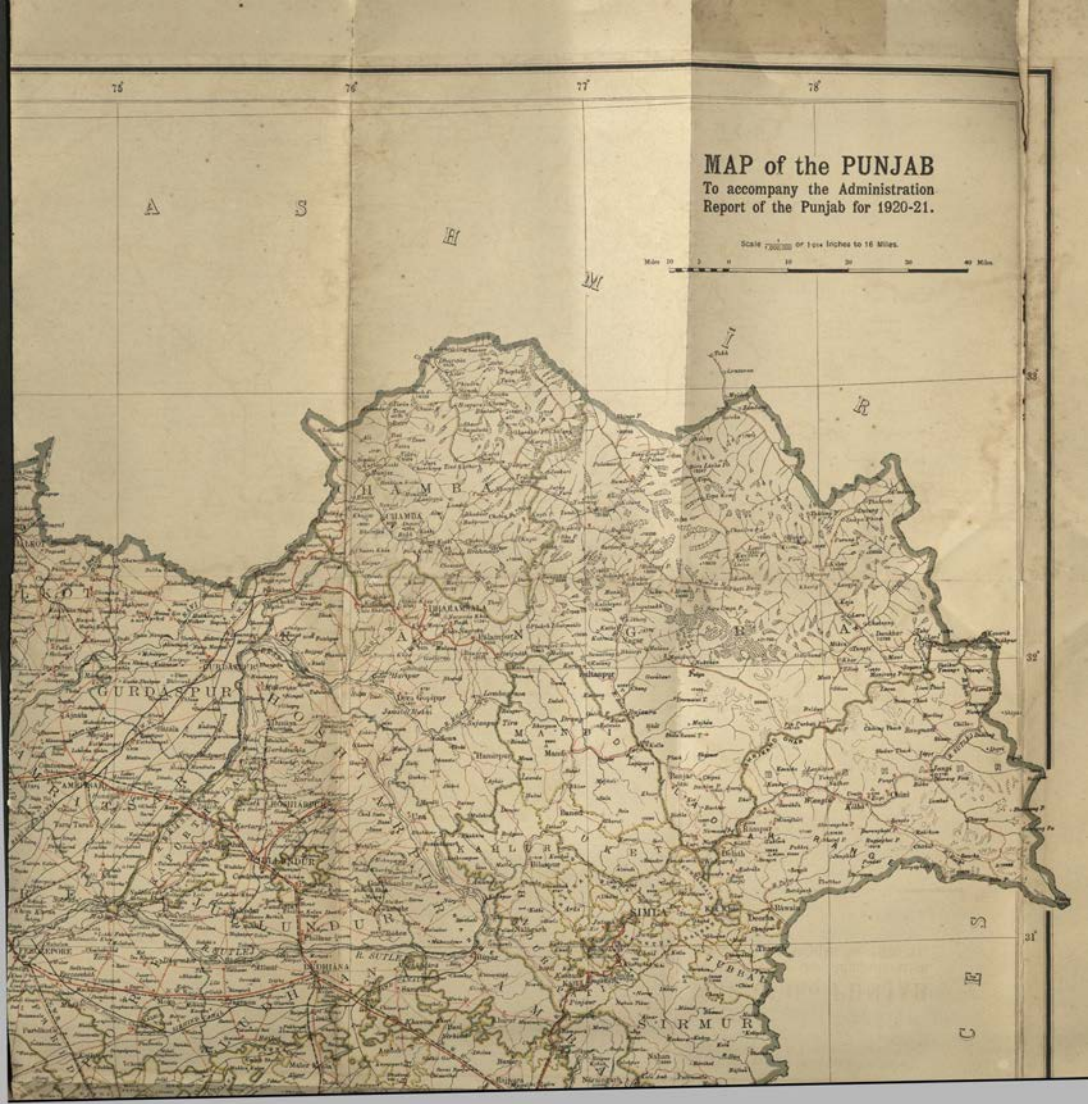
MAP of the PUNJAB

To accompany the Administration Report of the Punjab for 1920-21.



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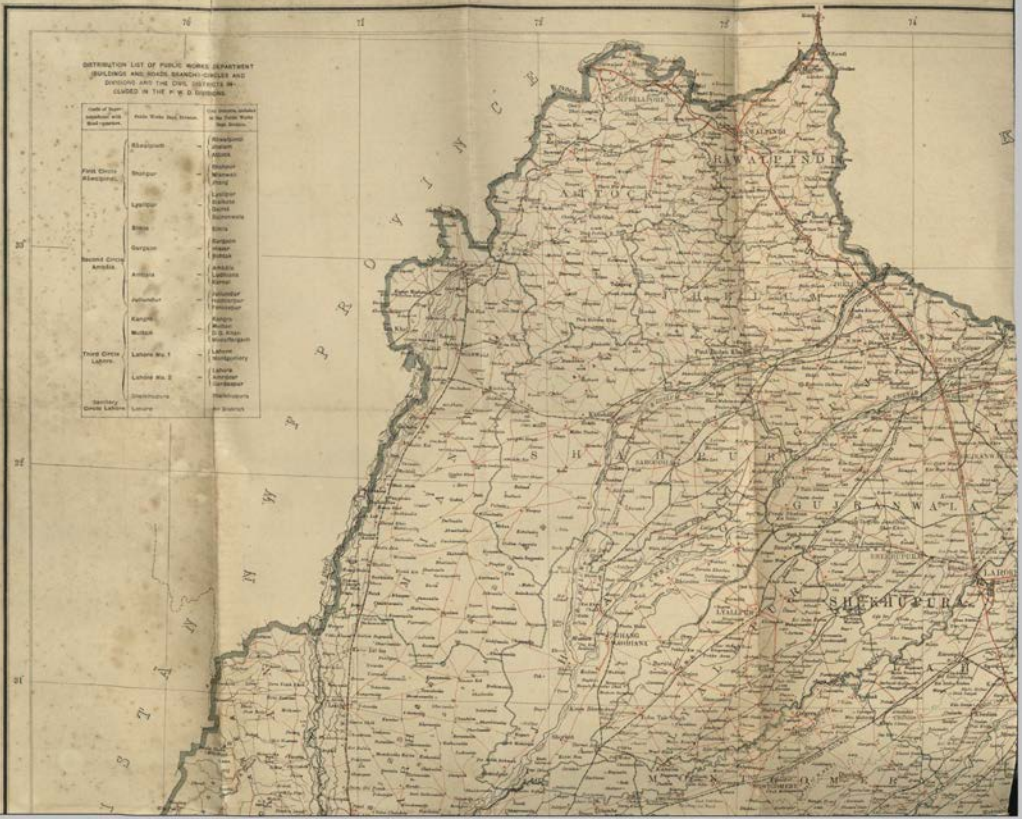
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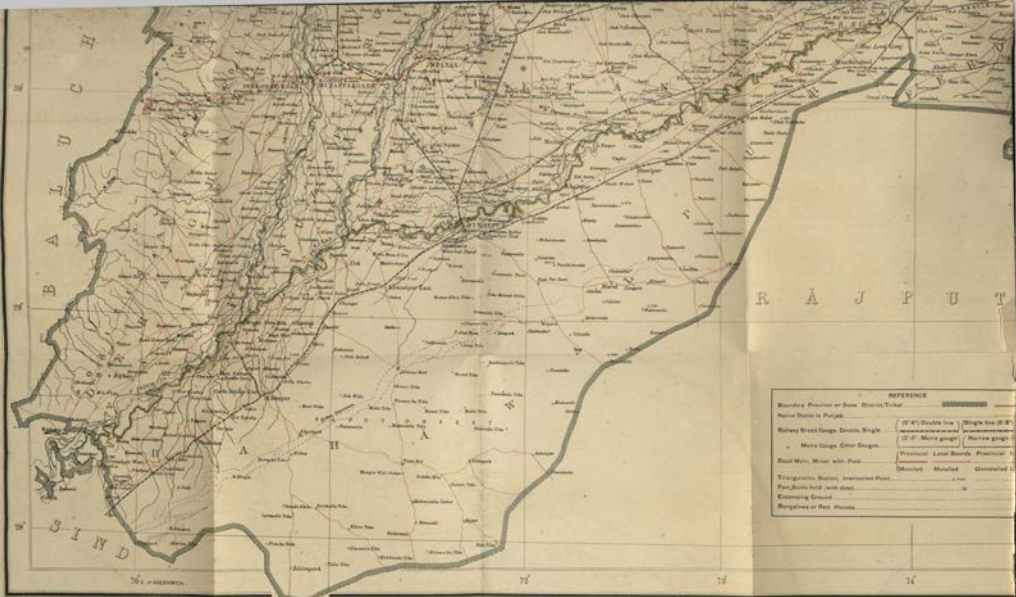

BALUCH
SIND
RĀJPUT
MULTAN
MUZAFFARGADH
REFERENCE
Boundary Province or State District Tribal
Native States in Punjab
Railway Broad Gauge Double Single
Metre Gauge Other Gauges
Road Main, Minor with Pass
Triangulation Station, Intersected Point
Fort Bottle field (with date)
Encamping Ground
Bungalows or Rest Houses

PUNJAB ADMINISTRATION REPORT, 1920-21.

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1922.

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Report on the Administration of the Punjab and its Dependencies for 1920-21.

PART I.

GENERAL SUMMARY.

(The "year" throughout this report is not invariably the financial year ending 31st March 1921. At the heading of each chapter, with the exception of Chapter I, a reference is given to the departmental reports which contain details of the subject dealt with. The "year" of the present report is for each such subject the year mentioned in the title of the departmental report so referred to. In general, it may be said that the "year" in Chapters I, IV, V, VII, VIII, and IX means the financial year ending 31st March 1921, in Chapter II it is the revenue year ending 30th September 1920, and in Chapters III and VI it is the calendar year ending 31st December 1920.

The Administration Report for 1911-12 was a decennial report, and as such contained many sections of permanent interest to which reference may be necessary in order to understand the working of the Administration; under the orders of the Government of India these sections are not repeated each year, but a reference is given to them in their place in the several chapters of part II of this report.

Except where otherwise stated, the Punjab in this report refers to the Punjab as at present constituted.)

SIR E. D. MACLAGAN, K.C.S.I., K.C.I.E., *Lieutenant-Governor* from 1st April 1920 to 2nd January 1921 and *Governor* from 3rd January 1921.

The new Government.

1. When the transient events of 1920-21 have been long forgotten, the year will yet be memorable for the change in government which was effected in accordance with the provisions of the Government of India Act. Sir Edward Maclagan, K.C.S.I., K.C.I.E., was appointed, on 3rd January 1921, as the first Governor of the Punjab, with an Executive Council of two Members and with two Ministers. The Hon'ble Sir John Maynard, K.C.I.E., C.S.I., and the Hon'ble Sardar Bahadur Sardar Sundar Singh, Majithia, C.I.E., were appointed Finance and Revenue Members, respectively. The two Ministers nominated from among the elected members of the Legislative Council for the Depart-

ments of Agriculture and Education, respectively, were the Hon'ble Lala Harkishan Lal and the Hon'ble Khan Bahadur Mian Fazl-i-Husain, both of whom, as its first session showed, enjoyed the confidence of the Legislative Council. To them has been entrusted the control over what are now known as "transferred subjects," namely, Public Works, Agriculture, Industries, Excise, Local Self-government, Medicine, Sanitation, Education (other than European and Anglo-Indian) and Registration. The Hon'ble Mr. M. S. D. Butler, C.B., C.I.E., C.V.O., C.B.E., was appointed the first President of the enlarged and reformed Legislative Council.

Security.

2. The calm which generally succeeds a storm was not vouchsafed to the Punjab after the tragic episodes of 1919. The public was eagerly awaiting the decisions of the Hunter Committee, but the publication, on the 28th May 1920, of the report and of the despatches concerning it, which had passed between the Government of India and the Secretary of State for India, failed to satisfy the more vocal sections of the Indian community, bent as they were upon the exemplary punishment of those who had exercised what was considered to be undue harshness in the administration of martial law. Upon the merits or otherwise of that agitation it is not proposed to dwell. The visit of His Royal Highness the Duke of Connaught in the autumn, conveying a message of good-will from His Majesty the King Emperor, undoubtedly had a good effect in assuaging to some extent the bitter feelings which existed before his arrival in India.

3. In the political arena the year under review may be said to have opened with a meeting of the Punjab Provincial Conference at Jullundur in the beginning of April 1920. Bitter views were expressed on the Punjab disturbances and the Khilafat question, and speeches were made in favour of general non-cooperation, including a boycott of the Army and the Police and a refusal to pay taxes. The resolution ultimately passed by the Conference omitted mention of the more extreme measures advocated by some of the speakers, but opportunities of trouble presented themselves. The first occurred on the 20th of April, when a guard of the North-Western Railway headed a strike of five thousand men employed in the Carriage and Wagon Shops. The strike lasted until the second week in June. Then the announcement of the Turkish peace terms in May caused widespread

disappointment throughout the province, and the Central Khilafat Committee used the occasion to work up a number of its followers in Sind to embark upon the ill-fated "Hijrat" to Afghanistan. The Muhajirin were met at important stations during their journey through the province by Punjab agitators whose fanatical speeches soon popularised the movement and induced more and more Musalmans to join the secessionists. For some weeks there was a steady exodus, but when the Afghanistan authorities in August declined to admit any more Muhajirin within their borders, the end came abruptly and disillusionment produced something of a reaction of feeling.

4. Several leaders of the anti-Government party visited the province in October and largely through the excitement raised by their presence and preachings, the Sikh League, at its annual session held in Lahore, adopted the non-cooperation resolution. As far as the resignation of titles and the withdrawal from candidature for the Council elections were concerned, the effect was nugatory, but among the students and professors of the Khalsa College at Amritsar the result was of some moment, while in Lahore the students of the Islamia College and the Muslim High School also went on strike. In Jullundur and Hoshiarpur, too, where there is a large element of returned Sikh emigrants, many violent meetings took place. The intensity of the agitation at length called for some action on the part of Government and on the 25th October the Seditious Meetings Act was proclaimed in the districts of Lahore, Amritsar and Sheikhupura. Later the Act was applied to the towns of Lahore and Amritsar and to the Jullundur district.

5. In the beginning of 1921 a second campaign was opened of boycott against schools aided by Government, a few so-called "national" schools came into being and a "school of politics" did some mischief by sending students into the countryside to preach non-cooperation. It was, however, among the Sikhs that agitation was now particularly fostered by the extremists, the subject of the control of the Khalsa College and of the Golden Temple being kept prominently in the foreground. The reconstitution of the Council and Managing Committee of the College stilled complaints upon the former subject, but the latter problem was, owing to differences among the Sikh community, less

susceptible of solution. After consultation with His Highness the Maharaja of Patiala, a Provisional Advisory Committee was formed to draw up a scheme for the management of the Golden Temple. A large meeting of Sikhs agreed to accept the nominees of Government on the Committee, but the Committee, as contemplated, was still-born for it merged itself in a larger and self-appointed organisation, known as the Shromani Gurdwara Parbandhak Committee consisting of 175 members.

6. Religious reform had now become the watchword of the Sikh malcontents. The Shromani Gurdwara Parbandhak Committee declared its intention of obtaining control over all the Sikh *gurdwaras* and other Sikh religious institutions in the province and of providing for their management. The Akali Dal, organised by this Committee, grew to abnormal proportions and was utilised for the purpose of seizing Sikh shrines and *gurdwaras*. Various seizures of this nature were actually made by the Akali Dal, until the catastrophe referred to in the next following paragraph raised passions yet higher.

7. On the 27th November 1920 certain Sikhs, carrying *kirpans* and axes, had made an attempt to seize the Nankana shrine. They found themselves opposed by a formidable party of *sadhus*, armed with *lathis*, under the leadership of the *mahant*, and a collision was only averted by the tact of the Police in handling a delicate situation. In the early morning of the 20th February 1921 another attempt was made, but fire was opened on the invading party which was mercilessly handled by the *mahant* and his followers. A gruesome holocaust of the dead, supposed to number about ninety, ensued, and eventually the military had to be summoned to restore order.

8. The disturbed conditions prevailing in the province threw upon the Police force, and in particular upon the Criminal Investigation Department, a very heavy burden of work. Records were taken of more than 1,400 public political meetings, 375 of which were attended by officers of the department to report on the speeches delivered. The work alone was sufficiently arduous, but the character of this duty has recently become more unpleasant than formerly, because officers are constantly subjected to vilification at such meetings and are at times even threatened with personal violence. It says much for both the officers and the

rank and file of the force that their tone and efficiency were maintained at a high level in circumstances of great difficulty.

9. The criminal statistics of the year under review show an upward tendency and the general unrest and weakening of regard for authority, combined with the present economic situation, give colour to the belief that crime will shortly reach the pre-war level. More murders were committed than in any previous year of the quinquennium, but the success of the vigorous measures taken to deal with *dakaits* from across the northern border is reflected in the fact that only twice in the last decade has the number of *dakaitis* been lower than the figure of eighty reported in 1920. Burglaries, however, were more numerous than before and the high prices obtained for good plough cattle were unfortunately a direct incentive to cattle thieves, who displayed unwonted activity in the riverain tract of the Lahore district.

10. A change of policy is now being carried out in dealing with the criminal tribes of the province. The importance of the economic factor in the reformation of these tribes has rightly been kept in view, and efforts have been made to secure to the inmates of industrial settlements as congenial work as possible and to raise wages where they were below market rates. Transfers to these settlements have been practically limited to habitual offenders, the remaining inmates not so classified being gradually released; and where any such transfer is likely to cause hardship to the family of a bread-winner it is now possible under the amended rules to draft the whole family into the settlement. A feature of the year's working has been the willing cooperation of the Native States of the Punjab, which have, with one exception, agreed to the mutual exchange of tribesmen wanted for non-extraditable offences.

Condition of the people.

11. The spring harvest of 1920 was fair, but the succeeding autumn harvest was seriously impaired by an unusually scanty monsoon, which practically ceased early in the month of August. The sown area decreased by sixteen per cent. as compared with the preceding year and the matured area was less by over thirty per cent. The outturn of wheat was estimated at not much above two million tons,

and compares very unfavourably with the yield of nearly 3½ million tons mentioned in the last report. Stocks of food-grains were reported to be generally insufficient.

12. Prices ruled high throughout the year, wheat, gram and barley all realising thirty per cent. more than in 1919, but there was a slump in cotton. The rates of sales and leases of agricultural land in the colonies rose still further and record prices were obtained at the auction of sites. An important feature of the year's working in the Lower Bari Doab Canal colony has been the influx of new military grantees. The health of the people was good and it is also satisfactory to record that the curve of birth rates has reached the point marked by the average of the previous quinquennium.

Finance.

13. It was not to be expected that the unusually large provincial balance of Rs. 260 lakhs would long remain intact after the restrictions imposed by the necessity for economy during the war had been removed. The revenue of the Punjab had, indeed, improved by nearly two crores of rupees in seven years, but not more than a quarter of the increase had been derived from ordinary heads of income, the remaining three-quarters representing proceeds from the sales of Government estates, waste land and town sites in the colony areas. Too much stress must not, therefore, be laid on the expansion of a revenue drawn so largely from sources of a non-recurring character. The actual advance in the year 1920-21 has been about Rs. 15 lakhs, but the sale of waste land and the like during the twelve months yielded no less than Rs. 19 lakhs. Irrigation, Excise and Stamp Revenue contributed towards the increase, while land revenue fell by Rs. 5 lakhs and was only Rs. 9 lakhs above the figure which was reached seven years ago.

14. The need for revision of the pay of non-gazetted establishments had been keenly felt for some time and the year under review witnessed a general rise in expenditure of that nature, amounting roughly to a crore of rupees per annum. The high rates of grain compensation, enhanced contingent charges and the return of many officers from military duty were additional factors which helped to swell the debit side of the accounts. The total increase over the previous year's figure was Rs. 116 lakhs, most of which

occurred under the following heads:—Civil Works (Rs. 20 lakhs), Land Revenue and Education (Rs. 16 lakhs each), Police (Rs. 11 lakhs), Law (Rs. 10 lakhs), Irrigation Works and Medical (Rs. 8 lakhs each), and General Administration (Rs. 6 lakhs), in the last item being included Rs. 1½ lakhs on account of the reforms scheme, inaugurated only three months before the close of the year. In consequence of this heavy expenditure the closing balance fell by Rs. 73 lakhs to Rs. 187 lakhs.

Agriculture and Rural Economics.

15. The rivalry between the two wheats known as Punjab-11 and 8-A continues to excite interest, and although at present the former is being more extensively sown in canal colony areas, the latter is making headway elsewhere in the province. Experiment and research work have been directed to the examination of earcockle disease in wheat, the effects of green manuring, the search for the crop best suited to "bara" lands, the protection of stored grain from weevils and other objects affecting the welfare of the agricultural community. The scarcity of fodder caused the peasantry to sow larger areas than usual with fodder crops, at the expense of cotton, the average prices of which dropped from over thirteen to less than nine rupees to the maund. Demonstration farms have attained a wider popularity and a travelling exhibition in entomology and sericulture, prepared by the Agricultural Department, drew many interested spectators at the places which were visited by the exhibition.

16. The unusual drought naturally affected reproduction in the forests of the Punjab and incidentally conduced to many widespread fires; the burnt area being slightly more than fourteen thousand acres. The extraction of all valuable timber is now carried out departmentally and is expected to yield good results. Prices reached a high level in the winter of 1920-21 and then fell. A surplus of some Rs. 18½ lakhs, against a quinquennial average of Rs. 9 lakhs, is, however, an indication of the increasing commercial value of forests to the province and of the success of a more intensive system of management under revised working plans and with improved methods of extraction.

17. The weakening of the monsoon as early as the beginning of August caused an intense demand for water throughout canal-irrigated areas, and this demand could not

always be satisfied, distribution by rotation being resorted to on some canals. The total irrigated area (ten and a quarter million acres), though less than the previous year's record figure, was well over half a million acres above the triennial average. The net revenue earned by the Punjab canals was Rs. 326 lakhs, or a return of just above 14½ per cent. on the capital invested.

Co-operation.

18. Notwithstanding the unfavourable conditions already alluded to, there was every sign of an increasing interest in co-operative work on the part of the people. The number of societies and of their members rose enormously during the year and although the organisation of credit societies had to be restricted, this side of the movement undoubtedly was of great service in affording assistance to members. The formation of four new central banks and of thirteen new banking unions marks the progress of secondary institutions, which have increased their working capital in four years from forty-six to more than a hundred lakhs of rupees. The success of agricultural societies, too, is beyond dispute, and generally speaking excellent progress was made in the reduction of liabilities and in the accumulation of assets.

19. The two most interesting features of the year's report are the inauguration in Jhang of the first co-operative mortgage bank in India, and the attempt to combat the evil of scattered holdings by the organisation of special consolidation of holdings societies. The former started well, while the results already achieved by the latter are noteworthy, repartition having been completed in forty-four villages with the aid of a special staff.

20. The variety of the work that can be brought within the scope of co-operative effort is illustrated by the formation of nearly a hundred arbitration societies, whose object is the prevention of unnecessary litigation, by the opening of night schools designed to teach the elements of education to adult members, by the mutual assistance given for silt clearance on inundation canals, land reclamation and the like. The co-operative movement has now securely established its position in the economic development of the province. There is reported to be still a lack of public-spirited helpers; other

retarding factors are the present economic situation and the nature of the movement itself, which demands that progress should be cautious ; but on the whole that progress in the Punjab compares favourably with the results reported from other provinces of India.

Vital Statistics and Medical Relief.

21. The birth rate of the province, by reaching the level of the quinquennial average, showed a gradual return to normal conditions after the ravages of pestilence and war, and the biological theory of reaction would lead to the expectation of a still further advance. Fortunately, too, there were no serious epidemics during the year. Cholera was almost non-existent until some imported cases from Hardwar in the summer caused a sporadic outbreak which was quickly checked. Plague was confined principally to the bubonic variety and resulted in a substantial reduction in mortality as compared with 1919, while proportionately small increases in deaths from dysentery and respiratory diseases accounted for the fact that the death rate was on the whole slightly higher than in the preceding year. Influenza was prevalent in a few districts, but in a mild form. The year, therefore, may with good reason be described as healthy.

22. The existing conditions for female medical relief are still discouraging, but further efforts were made to counteract the prevailing apathy by offering stipends to girls in the upper classes of schools, provided they entered the M. P. L. class of the medical school at Ludhiana after passing the entrance examination. Endeavours to attract women into the provincial service for women sub-assistant surgeons met with little success ; out of 18 women approached on the subject only 7 consented to relinquish their duties under local bodies.

23. For the dissemination of knowledge of elementary hygiene among the people, the new education bureau will play a prominent part by the preparation and distribution of lantern slides for the illustration of lectures to be delivered throughout the countryside. An important advance, too, has been achieved in the establishment of a state faculty of public health which will be able to procure for medical graduates the training and qualification that formerly necessitated at least a year's residence in England.

Excise.

24. Notwithstanding the application of various expedients, such as the raising of duty and the reduction of liquor shops, the revenue from excise generally and from liquor in particular shows no sign of abating, last year's record figure of Rs. 129 lakhs being exceeded in the year under review by over Rs. 18 lakhs. It is estimated that the people of the province spent a crore of rupees on liquor and beer alone and the consensus of opinion is that the decrease in consumption of country spirits and the corresponding increase in consumption of spiced spirit have been brought about by the sealed-bottle system, the original intention of which was merely to prohibit sales in small quantities. The fact that the two districts of Lahore and Amritsar consumed in the year under report as much spiced spirit as the whole province did four years ago will perhaps necessitate separate taxation on this class of spirit. Owing to the fall in demand, due to the demobilisation of troops, less beer was brewed than in the preceding year.

25. The raising of the issue price of opium from Rs. 32-8-0 to Rs. 40 per seer, the closing of more shops and the rationing of allotments led to a diminished consumption of that drug. The principal feature of the year's report has been the solution of the problem of opium grown in the Punjab and in the Simla Hill States. When the consumption of this Punjab opium was stopped in Patiala, Nabha and other States in the plains, it took the place of excise opium as a commodity worth smuggling into the Punjab States and elsewhere. A further difficulty arose. The cultivators in the hills depended largely on their opium crops for the payment of their revenue. The stoppage of its licit sale in the States in the Ambala division made the produce a glut in the market. Prices went down, large balances accumulated and the situation became somewhat embarrassing. Eventually it was decided to prohibit the consumption of excise opium in the Jullundur division and of non-excise opium in the rest of the province, supplies of excise opium being cut off in the Jullundur division in October 1920. This gave a great fillip to trade in hill opium, and its price suddenly equalled the price of excise opium. There was not much variation in the consumption of *charas* and *bhang*, but sales of cocaine showed signs of increasing.

26. A considerable amount of interest was taken by the Legislative Council in the problem of liquor consumption, and a resolution on the subject of local option was carried towards the close of the year. The Standing Committee of the Council on Excise decided upon the introduction of a system of rationing liquor shops similar to the system already in vogue for opium shops, and the scheme has now been applied to nine districts in the province.

Trade and Industry.

27. Among the factors governing the trade of the province mention has to be made of the uncertain exchange, restricted railway facilities and shortage of coal supply while the *swadeshi* movement also made itself felt to a slight extent. The growing requirements of cotton ginning and pressing factories created a larger demand for coal and coke, and notable increases occurred in the imports of bars, sheets and girders, railway materials, timber, machinery and Indian piece-goods. On the other hand, less foreign piece-goods, manufactured brassware and kerosine oil entered the Punjab than in the preceding year. The principal export was of wheat, for which there was a big demand, but the export of other food-grains was restricted by Government control and exports generally fell far short of the figures for the preceding year. At the close of the year there was a heavy adverse balance of trade. Karachi was, as usual, the best customer of the Punjab, its share of provincial exports, chiefly wheat, increasing from 31 to 34 per cent of the total.

28. The net imports of gold bullion increased by over Rs. 54 lakhs, and of silver bullion by nearly Rs. 93 lakhs, while the net import of silver coin fell by more than two crores of rupees.

29. The discontinuance of trade relations between Russia and Afghanistan led to a brisker exchange of goods between the latter country and the Punjab, exports and imports both showing considerable increases. Raisins and almonds were freely imported, while European and Indian piece-goods as well as sugar were sent across the border in larger quantities than usual. The import trade with Central Asia declined in weight, but the value of imports was higher than in the preceding year, raw silk being the principal commodity which exhibited an increase both in weight

and value. Exports were larger, though piece-goods lost ground. In the case of Tibet both imports and exports declined in weight, but the value of imports was slightly above the figure of the previous year. The cheap Indian piece-goods are reported to have practically ousted the European articles in the export trade to that country In respect of trans-frontier trade generally there was a fall of about Rs. 8 lakhs in the balance of trade in favour of the Punjab, as compared with the year 1919-20.

30. The new Department of Industries made a promising start, notwithstanding unfavourable economic conditions. As a tentative measure six industrial surveyors have been appointed to travel constantly through the province and keep the Director in touch with local industries. Instruction in the five weaving schools has at the same time been put on a more scientific basis. There has been an increase of 38 in the number of factories, and the average number of employés in factories subject to the Factory Act has risen from about 39,000 to 42,500. Considerable labour unrest was evident, especially in large centres, the most serious strike, which lasted for over two months, occurring in the workshops of the North-Western Railway.

Local Self-Government.

31. While reports received from the Ambala district show that there is a demand for an extension of the local franchise in consequence of the imposition of a professional tax on merchants, contractors and shop-keepers, the other side of the picture is seen at Gurgaon, where elections are declared to be not only farcical, but actually unpopular. In Lahore there were on occasions some fairly keen contests for seats on the district board, and a large percentage of electors registered their votes. To what extent the present representatives serving on district boards perform their duties is, however, a question the answer to which varies with the locality, the relative educational equipment of members and sometimes with the comparative accessibility of headquarters from outlying portions of their districts.

32. Boards are at length beginning to realise that Government cannot pour out an ever-increasing stream of grants-in-aid, and the proposals made in some districts to impose fresh taxation and to raise local rates are hopeful signs for the future. It is, indeed, in this matter of finance

that members of district boards lack experience, as is evidenced by the fact that, while income apart from Government grants actually decreased, expenditure was in excess by ten lakhs of rupees. Nor is the allotment of expenditure always made with the best of discrimination, for in some districts inadequate sums have been set aside for medical relief and sanitation, in order to enable the boards to carry through an educational programme which aims at multiplicity of schools rather than improvement in educational institutions. On the other hand, some boards have shown good practical sense in the encouragement of demonstration farms and agricultural schools.

33. In the case of municipal elections there has been a large number of unopposed returns, and where contests were vigorous they were not infrequently conducted on sectarian lines and were occasionally vitiated by corrupt practices. Favourable reports have come in from the municipalities of the Multan division, but the east of the province is generally more backward. It is, however, in the central Punjab that the success or failure of local self-government can best be gauged. In Lahore and Amritsar there was displayed, during a large portion of the year, a spirit of initiative and keenness, which, if confined to its legitimate sphere, would promise well; but unfortunately an increasing penchant for political controversy latterly manifested itself in the former town and municipal administration naturally suffered.

34. The income of municipalities increased by over seventeen lakhs of rupees in the year and expenditure was kept within the figure for income—a point in which municipal committees compare favourably with district boards. The prevailing tendency towards the substitution of octroi by a terminal tax continued and several important towns, including Lahore and Amritsar, are preparing for the change. The abolition of the vexatious system of refunds is one great merit of the terminal tax, which, however, has defects and, when applied only to rail-borne goods, can be evaded by the simple device of detraining the goods at a neighbouring station and carrying them to the town by road.

Education.

35. In the department of education the year was noteworthy for some comprehensive changes. At the beginning of the year the cadre of the Indian Educational Ser-

vice was numerically strengthened by promotions from the Punjab Educational Service, and the revision of the latter service took effect from 1st April 1920, on a time-scale basis of pay, with six selected posts. Improvements were also carried out in the Subordinate Educational Service, each grade being advanced in the matter of pay to the next higher grade under the old scheme. Every district now has its own inspector, a member of the Punjab Educational Service, with assistant inspectors for specified portions of districts.

36. The progress of education has been well maintained, though its advance has been more apparent in secondary than in primary institutions. In the latter type of schools there are now more than a quarter of a million pupils, but the numbers in secondary schools are approaching 200,000 and show no signs of diminishing. It is generally admitted that primary education, hampered by its lack of good buildings and capable teachers, is at present in a less progressive state than secondary, but possibly the introduction of the Primary Education Act and the enforcement of its provisions by an increasing number of towns may have a stimulating effect. In all classes of schools much attention is rightly devoted to physical training.

37. It is a matter for regret that the number of boys undertaking an industrial training shows a steady decline. The cause is not far to seek, for as soon as a boy's labour is worth anything—and this is quickly the case under present conditions—the father withdraws him from school and puts him to work. On the other hand, the training of teachers and the instruction of pupils in agriculture have made excellent progress, and the demand for admission to the Lyallpur College continues to be so insistent that steps are being taken to increase the capacity of that institution.

The new Legislative Council.

38. The last few months of the year 1920 witnessed great activity in preparation for the elections under the Reforms Scheme. It might have been expected that, in consequence of the history of the province during the previous eighteen months, non-cooperation would have made more headway in the Punjab than elsewhere, but although in some places intimidation was practised by the irreconcilables, the voting in the general constituencies was as high as 32 per cent., while in rural constituencies the percentage was slightly

larger. The composition of the Council of 93 members was as follows :—The President, the two members of the Executive Council, 13 nominated officials, 6 nominated non-officials, and 71 elected members (including the two Ministers). The elective seats comprised 20 for non-Muhammadans (7 for urban and 13 for rural constituencies), 32 for Muhammadans (5 for urban and 27 for rural constituencies), 12 for Sikhs (1 for urban and 11 for rural constituencies), 4 for representatives of land-holders, one of whom is the Minister for Education, 1 for a representative of the Punjab University, 1 for a representative of the Chambers of Commerce, and 1 for a representative of Punjab Industries—this last is held by Minister for Agriculture. The new Council met on the 8th of January 1921, when the oath of allegiance was taken by 89 members. The session was a busy one, twenty meetings being held between the 23rd of February and the 19th of March. About 350 questions were put and answered and 24 resolutions were moved. Some of these latter were, indeed, on subjects of minor importance, but in the case of others spirited debates took place.

39. The first resolution of general interest was one recommending that the indemnity imposed upon Amritsar should be remitted. After a debate extending over portions of two days the resolution was carried by a majority of 48. A still lengthier debate followed upon a resolution proposing that the Local Government should introduce a bill to revise the law relating to charitable and religious endowments. This resolution also was carried, but another, recommending the grant of an amnesty to convicts still serving sentences inflicted under martial law, was lost by the narrow margin of two votes. On the 16th of March the Council adopted a motion advising the appointment of a committee to propose adequate compensation to the families of those killed and to those injured at the Jallianwala Bagh and other places during the disturbances in 1919 on the scale followed in similar cases for Europeans. Finally, the tone of the Council's deliberations was marked by the unanimous adoption of a resolution recommending a representation to the Governor-General in Council regarding the necessity of arranging an All-India Round Table Conference of leading officials and non-officials "to consider the necessary steps to be taken to reconcile the people and to maintain law and

order and to ascertain how it is possible to secure co-operation."

40. In disposing of the budget the Council, though generally speaking it rejected no important demands for expenditure in its first session, disallowed altogether the expenditure on the Publicity Committee and so brought publicity activities to a close.

PART II.

DEPARTMENTAL CHAPTERS.

CHAPTER I.

Physical and Political Geography.

1.—Physical Features of the Country, Area, Climate, and Chief Staples.

(See pages 1—16 of the report for the year 1911-12.)

2.—Historical Summary.

(See pages 16—30 of the report for the year 1911-12.)

3.—Form of Administration.

(See pages 30—48 of the report for the year 1911-12.)

4.—Character of Land Tenures and System of Surveys and Settlements.

(See pages 48—58 of the report for the year 1911-12 and the Punjab Settlement Manual.)

5.—Civil Divisions of British Territory.

(See pages 59—62 of the report for the year 1911-12.)

6.—Details of the last Census—Tribes and Language.

(See pages 62—71 of the report for the year 1911-12.)

7.—Changes in the Administration.

1. SIR EDWARD MACLAGAN, K.C.S.I., K.C.I.E., continued to hold charge of the Province throughout the year under report.

2. The reformed system of Government was introduced on 3rd January 1921 and Sir Edward Maclagan was appointed the first Governor of the Province with an Executive Council consisting of two members and with two ministers. The Hon'ble Sir John Maynard, K.C.I.E., C.S.I., and the Hon'ble Sardar Bahadur Sardar Sundar Singh, Majithia, C.I.E., were appointed Members of Council for the Finance and Revenue Departments, respectively; and the Hon'ble Lala Harkishan Lal and the Hon'ble Khan Bahadur Mian Fazl-i-Husain were nominated Ministers for the Agriculture and Education Departments, respectively. The Legislative Council was also enlarged and the Hon'ble Mr. M. S. D. Butler, C.B., C.I.E., C.V.O., C.B.E., was appointed its first President.

3. Mr. C. J. Hallifax, C.B.E., was appointed Financial Commissioner with effect from 3rd January 1921 in the vacancy of Sir John Maynard.

4. An additional Judge was appointed temporarily to the High Court during the winter months as usual, for the inspection of subordinate courts.

8.—Relations with Tributary States and Frontier Affairs.

I.—PHULKIAN STATES.

5. Mr. L. M. Crump, C.I.E., I.C.S., held charge of the Agency from 1st April 1920 to 2nd June 1920. On his proceeding on leave on medical grounds, Lieutenant-Colonel A. C. Elliott, C.B.E., Commissioner of the Ambala Division, held collateral charge of the Agency from 2nd June to 17th November 1920, and sole charge thereafter. The post of Personal Assistant remained vacant.

PATIALA.

Area, 5,942 square miles; population, 1,499,739; approximate revenue, Rs. 115 lakhs; army and police, 4,911; Major-General Maharaja Sir Bhupendra Singh, G.C.I.E., G.B.E., Sidhu Jat; aged 30; has a male heir; salute, 19 guns (including 2 personal).

Personal.

6. His Highness the Maharaja was not in very good health during the year. He passed the summer at Chail and the winter in Patiala, but on medical advice left Patiala on the 16th of March and sailed from Bombay for England on the 19th of March. On 27th April 1920 His Royal Highness the Crown Prince of Roumania visited Patiala for 4 days as the guest of His Highness. On 23rd October His Highness Prince Amoradhat of Siam spent a day in the State, and His Excellency the Governor of the Punjab was also a guest of His Highness from the 16th to the 18th of December. The Maharaja attended a Provincial Darbar at Lahore in January 1921 and in the following month was present in Delhi at the Punjab Conference and at the inauguration of the Chamber of Princes by His Royal Highness the Duke of Connaught.

Administration.

7. The designation of the Chief, Home and Foreign Secretaries was altered to Prime Minister, Home Minister and Foreign Minister, respectively, while the Chief Justice, in his capacity of *ex-officio* Judicial Secretary, became Judicial Minister. During the

Maharaja's absence from the State an administrative committee, with the Prime Minister as president, conducted affairs in the State. Following upon the raising of the status of the Chief Court to a High Court, two District and Sessions Judges' courts were established and separate *naib nazims*, increased in number from 12 to 21, were appointed for the disposal of criminal and civil cases. Three new agricultural co-operative societies were organised in the State.

Military.

8. The total strength of Imperial Service Cavalry (Rajindra Lancers) maintained during the year was 605. The regiment formed a part of the escort of His Royal Highness the Duke of Connaught at Delhi.

Crops and irrigation.

9. Rainfall was insufficient for the sowings of both spring and autumn crops and, although a larger area than in the previous year was cultivated, the value of the crops showed a decrease. All but three quarters of a lakh, out of the land revenue demand of Rs. 45 lakhs, was collected during the year. There was an ample supply of canal water during *kharif*, but the absence of rain during *rabi* caused a shortage and the demand could not be fully met.

Public health.

10. The birth rate rose from 29·29 *per mille* to 30·21 and the death rate showed an increase from 19·45 to 22·02. Births numbered 45,311 and deaths 32,925.

JIND.

Area, 1,259 square miles; population, 308,183; approximate revenue, Rs. 25 lakhs; army and police, 1,501; Lieutenant-Colonel Maharaja Sir Ranbir Singh, G.C.I.E., K.C.S.I., Sidhu Jat; aged 42; salute, 15 guns (including 2 personal).

Personal.

11. His Highness spent 4½ months at Bhim Tal, during which time his health was indifferent, and the remainder of the year in his capital, except for a brief stay at Lahore where he was present at the Provincial Darbar. The Maharaja also attended the functions at Delhi in connection with the visit of His Royal Highness the Duke of Connaught. His Excellency the Governor accompanied by Lady Maclagan spent the 13th and 14th December 1920 at Sangrur, and during the visit performed the opening ceremony of the King George V Coronation Wing of the Victoria Golden Jubilee Hospital.

Administration.

12. The three most important administrative changes during the year were the re-organisation of the accounts department, the disbandment of certain useless units of the local army and the inauguration of a representative assembly of 36 elected and 9 nominated members. The assembly is convoked with a view to obtaining public opinion on local affairs.

Military.

13. There was no change in the strength or the personnel of the Jind Imperial Service regiment.

Crops.

14. The absence of rainfall after the month of July resulted in the complete failure of unirrigated crops, and the outturn of irrigated crops was below average. The area of matured crops decreased by 60,000 acres as compared with the preceding year.

NABHA.

Area, 928 square miles; population, 283,334; approximate revenue, Rs. 22½ lakhs; army and police, 1,074; Maharaja Ripudaman Singh, Sidhu Jat; aged 38; has a male heir; salute, 13 guns.

Personal.

15. His Highness' health was fair during the year. He spent a large part of the year at Dehra Dun and also visited Simla. His Excellency the Governor of the Punjab paid a visit to the State on the 15th and 16th December 1920.

Administration.

16. Pandit Sri Krishna Joshi was appointed Foreign Minister, and Sardar Bakhshish Singh, formerly officiating as Foreign Minister, was made Census Superintendent. Revenue demands were collected in full, and outturn of harvests was reported to be average. There were 4,454 births and 3,191 deaths in the State.

II.—STATES OF THE BAHAWALPUR AGENCY.

17. Lieutenant-Colonel A. J. O'Brien, C.I.E., C.B.E., I.A., held charge of the Agency from the 1st April 1920.

BAHAWALPUR.

Area, 15,000 square miles; population, 781,191; approximate revenue, Rs. 44½ lakhs; army and police, 1,321; Nawab Sadiq Muhammad Khan, Abbasi V, Daudputra; aged 16; salute, 17 guns.

Personal.

18. His Highness the Nawab enjoyed excellent health during the year and has taken to manly sports. Mr. M. S. Leigh remained in charge of His Highness as Tutor until February 1921 when he was succeeded by Mr. Bolster.

Administration.

19. Mr. Davis, Chief Engineer of the State, retired from State service at the close of the year. The balance of the State's funds increased from Rs. 140½ lakhs to nearly Rs. 156½ lakhs, notwithstanding a smaller collection of land revenue due to an indifferent autumn harvest. The Darbar agreed to the Sutlej Valley Project during the year, but the electric and water supply schemes have not yet been carried out owing to the absence of necessary plant. The health of the population was good, and little serious crime occurred in the State. The Darbar contributed Rs. 10 lakhs to the 6 per cent. war loan.

MALER KOTLA.

Area, 167 square miles; population, 80,322; approximate revenue, Rs. 14 lakhs; army and police, 903; Lieutenant-Colonel Nawab Sir Muhammad Ahmad Ali Khan, Bahadur, K.C.S.I., K.C.I.E., Sherwani Pathan; aged 40; has a male heir; salute, 11 guns.

Personal.

20. His Highness was in good health throughout the year. As usual he spent a part of the summer at Mashobra. On 1st January 1921 His Highness was created a Knight Commander of the Indian Empire. Mr. Edwards was appointed Tutor to the Sahibzadas.

Administration.

21. Lieutenant-Colonel Qadir Bakhsh, Khan Bahadur, C.I.E., was appointed to officiate as the General Officer Commanding, State Forces, in January 1921, in place of Major-General Sardar Mehr Muhammad, who retired, and Lieutenant-Colonel Sardar Bahadur Mit Singh was placed in Command of the Imperial Service Sappers.

General.

22. A deficiency in rainfall caused a poor outturn of crops on unirrigated lands and prices rose, but the collection of revenue was good. The State's share of earnings in the Ludhiana Dhuri-Jakhal Railway rose by Rs. 21½ thousand. Public health was good, and there was an increase in births and a decrease in deaths, as compared with the preceding year.

FARIDKOT.

Area, 638 square miles; population, 150,661; approximate revenue, Rs. 18 lakhs; army and police, 422; Raja Har Indar Singh, Barar Bans Jat; aged 6; salute, 11 guns.

Personal.

23. The health of His Highness the Raja was excellent throughout the year. He spent the summer in Simla, with his mother and brother.

Administration.

24. Owing to the breakdown in health of Rai Bahadur Ganga Sahai, the presidency of the Council of Administration was assigned to Sardar Indar Singh.

General.

25. The State is in a sound financial position, with a balance of Rs. 76 lakhs. Rainfall was very largely in defect and harvests were poor, but most of the land revenue was collected. The Darbar is tackling the question of improvements in irrigation.

III.—STATES OF THE JULLUNDUR DIVISION.

KAPURTHALA.

Area, 598 square miles; population, 284,275; approximate revenue, Rs. 37 lakhs (inclusive of about Rs. 16 lakhs, income from the Oudh Estate); army and police, 1,057; Lieutenant-Colonel Maharaja Sir Jagatjit Singh, Bahadur, G.C.S.I., G.C.I.E., Ahluwalia Sikh; aged 48; has a male heir; salute, 15 guns (including 2 personal); tribute, Rs. 1,31,000.

Personal.

26. His Highness was in good health during the year. He returned from Europe in November 1920 and departed again for Europe in February 1921. On 1st January 1921 he was created a Knight Grand Commander of the Indian Empire for services in connection with the war. On 8th January 1921 he attended the Provincial Darbar at Lahore and a month later was present at the inauguration ceremony of the Chamber of Princes at Delhi.

Administration.

27. In the absence of His Highness, the administration of the State was successfully conducted by the Tikka Sahib and Khan Bahadur Diwan Abdul Hamid Khan, O.B.E., Chief Minister. The Imperial Service Troops were on active service in Mesopotamia for about 6 months during the year.

MANDI.

Area, 1,200 square miles; population, 185,048; approximate revenue, Rs. 8 lakhs; army and police, 161; Raja Jogendra Sen, Rajput Mandal; aged 17; salute, 11 guns; tribute, Rs. 1 lakh.

Personal.

28. His Highness continued his studies at the Aitchison College, residing with his tutor, Mr. Gillmore. His progress is reported to be good. He paid a short private visit to Mandi in April 1920 and spent the summer in Kashmir, and also attended the Provincial Darbar in Lahore and the inauguration ceremony of the Chamber of Princes at Delhi.

Administration.

29. The late Mr. J. R. S. Parsons, I.C.S., gave over charge as Superintendent on 25th May 1920, and was succeeded by Pandit Maharaj Kishan, M B.E., with Lala Sri Gopal as Assistant Superintendent.

General.

30. Further progress was made on the Larji-Mandi road and the new bridge across the Suketi river is approaching completion. Income and expenditure both rose during the year. There was a steady increase in the output of salt, in the value of the salt sold and in the share of the State and the Government. The report of the Assistant Superintendent, Geological Survey of India, who inspected the quarries, is under the consideration of the Darbar.

SUKET.

Area, 420 square miles; population, 54,328; approximate revenue, Rs. 3¾ lakhs; army and police, 73; Raja Lachhman Sen, Rajput; aged 27; has no male heir; salute, 11 guns; tribute, Rs. 11,000.

Personal.

31. His Highness' health has been good throughout the year. In order to enable the Dowager Rani to perform a pilgrimage in connection with the demise of her husband, Raja Sir Bhim Sen, K.C.I.E., His Highness visited all the sacred places of the Hindus in India. He also attended the Provincial Darbar in Lahore and the inauguration ceremony of the Chamber of Princes in Delhi.

Administration and general.

32. With a view to undertaking settlement operations in the State, His Highness has applied for the services of Lala Mohan Lal, a Naib-Tahsildar of the Lahore Division, as an Extra Assistant Settlement Officer. The income of the State

rose by Rs. 45,000, but was exceeded by the expenditure, principally owing to the Raja's pilgrimage tour.

IV.—STATES OF THE LAHORE DIVISION.

CHAMBA.

Area, 3,216 square miles; population, 141,867; approximate revenue, Rs. 4¾ lakhs; army and police, 419; Raja Ram Singh, Hindu Rajput; has no male heir; aged 30; salute, 11 guns; tribute, Rs. 2,225.

Personal.

33. His Highness was formally installed by Sir Edward Maclagan at Chamba in April 1920. He spent three months during the summer at Jandraghat, his residence near Dalhousie, and also visited Lahore and Faridkot in the winter. Heavy snow-storms and landslips prevented him from being present in Delhi for the inauguration ceremony of the Chamber of Princes. The Raja is reported to have attained considerable personal popularity with his officials and subjects.

Administration and general.

34. Lieutenant-Colonel Powney Thompson's appointment as Adviser was extended for one year with effect from the 20th December 1920. Mr. R. T. Lewis succeeded Mr. R. N. Parker as Conservator of Forests in November. His Highness has evinced much interest in the spread of education in the State and sanctioned the establishment of 13 properly equipped village schools. Settlement operations are in prospect, and excise administration in the State has been brought into closer conformity with that prevailing in the Punjab. The death of Rai Sahib Major Sri Kanth, Commandant of the State Forces, in September 1920, was a serious loss to the military administration in the State.

V.—STATES OF THE AMBALA DIVISION.

SIRMUR (NAHAN).

Area, 1,198 square miles; population, 140,448; approximate revenue, Rs. 6 lakhs; army and police, 479; Lieutenant-Colonel Maharaja Sir Amar Prakash, K.C.S.I., K.C.I.E., Rajput; aged 32; has a male heir; salute, 11 guns.

Personal.

35. His Highness was granted the title of K.C.I.E. for services in the war. He attended the inauguration ceremony of the Chamber of Princes at Delhi on 8th February 1921 and paid another visit to Delhi to say farewell to His Excellency Lord Chelmsford.

Administration.

36. His Highness continued the efficient administration of his State. The extra expenditure of over Rs. 2 lakhs incurred by the Darbar on the Imperial Service Sappers has been generously waived by His Highness and treated as a further contribution to the expenses of the war.

KALSIA.

Area, 188 square miles; population, 57,371; approximate revenue, Rs. 4 lakhs; army and police, 164; Raja Ravi Sher Singh, Jat Sandhu Sikh; aged 18.

Personal.

37. The young Raja went to Europe for further education under the tutorship of Brigadier-General Money, and was followed by his mother and sister.

General.

38. The Council of Regency continued to administer the State satisfactorily. Education is making good progress. An increase of revenue is expected from the raising of the income-tax rates.

PATAUDI.

Area, 52 square miles; population, 18,097; approximate revenue, Rs. 1 lakh; army and police, 46; Nawab Iftikhar Ali Khan, Bahadur, Pathan; aged 11.

General.

39. The young Nawab is at the Aitchison College, Lahore, and the State continues to be administered by the Council of Administration. The finances of the State are said to be in a fairly good condition. The question of educating the Nawab's younger brother (Sher Ali Khan) is under the consideration of the Council.

LOHARU.

Area, 222 square miles; population, 20,621; approximate revenue, Rs. 1 lakh; army and police, 73; Captain Nawab Aiz-ud-din Ahmad Khan, Bahadur, Mughal; aged 35; has no male heir.

Personal.

40. Nawab Sir Amir-ud-din Ahmad Khan abdicated in favour of his son, Aiz-ud-din Ahmad Khan, who was installed in April 1920. The Nawab has been admitted as a permanent member of the Chamber of Princes. In recognition of his services on the Frontier he was promoted to the rank of Captain. The Nawab attended the inauguration ceremony of the Chamber of

Princes at Delhi and paid another visit to Delhi to say farewell to His Excellency Lord Chelmsford. His brother joined the Police Department in the State as Assistant Superintendent.

Administration.

41. The finances of the State are moderate, but owing to the State debt the Nawab is anxious to enhance the revenue demand without undertaking regular settlement operations.

DUJANA.

Area, 91 square miles; population, 25,833; approximate revenue, Rs. 1 lakh; army and police, 113; Nawab Muhammad Khurshaid Ali Khan, Bahadur, C.I.E., C.B.E., Pathan; aged 37; has a male heir; tribute, 50 cavalry on requirement.

42. The Nawab received the further title of C. I. E., during the year. He continued to administer the State personally, with the help of an efficient Diwan, Khan Bahadur Bashir Ahmad. He attended the inauguration ceremony of the Chamber of Princes in Delhi, paid another visit to Delhi to say farewell to His Excellency Lord Chelmsford, and spent a part of the summer in Solon and Simla.

VI.—STATES UNDER THE POLITICAL CONTROL OF THE SUPERINTENDENT, HILL STATES, SIMLA.

43. The chief particulars of these States are given in the following table:—

No.	State.	Area in square miles, including feudatories.	Population in 1921.	Approximate revenue.	Tribute.	Name of Chief.	Race.	Age.	Title.	Whether male heir or not.	Military force and Police.	Remarks.
				Rs.	Rs.							
1	Bilaspur ...	448	93,000	3,20,750	8,000	Major Sir Bijai Chand, K.C.I.E., C.S.I.	Rajput	48	Raja ...	Yes	118	Permanent salute, 11 guns.
2	Bashahr ...	3,820	86,077	1,63,170	3,945	Padam Singh ...	Do.	47	Do. ...	Yes	75	Personal salute, 9 guns.
3	Nalagarh ...	256	46,866	1,80,800	5,000	Jogindar Singh ...	Do.	51	Do. ...	No	48	
4	Keonthal ...	16	25,569	1,27,560	...	Bahendar Sen ...	Do.	16	Do.	No	36	
5	Baghal ...	124	25,094	80,630	3,610	Bikram Singh ...	Do.	28	Do. ...	Yes	25	
6	Jubbal ...	288	24,856	6,88,640	2,520	Bhagat Chand ...	Do.	32	Do. ...	Yes	...	
7	Baghat ...	36	9,505	1,01,110	...	Durga Singh ...	Do.	19	Rana...	No	32	
8	Kumharsain	90	12,227	39,330	2,000	Vidyadhar Singh ...	Do.	25	Do. ...	No	...	
9	Bhajji ...	36	14,263	57,030	1,440	Bir Pal ...	Do.	15	Do. ...	No	...	
10	Mailog ...	43	8,296	32,780	1,440	Durga Chand ...	Do.	23	Thakur	No	...	
11	Balsan ...	51	6,137	31,260	1,080	Attar Singh ...	Do.	53	Rana...	Yes	...	
12	Dhami ...	26	4,786	81,000	720	Dalip Singh ...	Do.	13	Do. ...	No	...	
13	Kothar ...	20	3,841	27,750	1,000	Jagjit Chand ...	Do.	34	Do. ...	Yes	...	
14	Kunihar ...	80	1,946	6,000	180	Hardeo Singh ...	Do.	23	Thakur	No	...	
15	Mangal ...	12	1,193	1,200	72	Sheo Singh ...	Do.	33	Rana...	No	...	
16	Bija ...	4	943	11,180	124	Puran Chand ...	Do.	24	Thakur	Yes	...	
17	Darkoti ...	8	810	2,000	...	Raghunath Singh ...	Do.	32	Rana...	Yes	...	
18	Taroch ...	67	4,219	56,000	588	Surat Singh ...	Do.	31	Thakur	Yes	...	
19	Sangri ...	16	3,213	7,200	...	Hira Singh ...	Do.	70	Rai ...	Yes	...	
20	Kaneti ...	19	2,938	3,690	...	Anog Chand ...	Do.	80	Thakur	No	...	Tributaries of Bashahr.
21	Delath ...	42	1,851	2,743	...	Deri Singh ...	Do.	43	Do. ...	Yes	...	
22	Koti ...	50	9,228	44,154	...	Raghbir Chand ...	Do.	61	Rana...	Yes	66	
23	Theog ...	144	6,300	14,600	...	Padam Chand ...	Do.	35	Thakur	Yes	8	
24	Madhan ...	9	3,729	5,500	...	Randhir Chund ...	Do.	34	Do.	No	...	Tributaries of Keonthal.
25	Ghund ...	28	2,118	5,610	...	Ranjit Singh ...	Do.	38	Do.	Yes	...	
26	Kateah ...	12	481	700	...	Hira Singh ...	Do.	53	Do.	Yes	...	
27	Rawin ...	7	711	4,691	...	Kidar Singh ...	Do.	44	Do.	Yes	...	Tributaries of Jubbal.
28	Dhadi ...	25	185	1,600	...	Dharm Singh ...	Do.	33	Do.	Yes	...	

Bilaspur.

44. His Highness Raja Sir Bijai Chand, K.C.I.E., C.S.I., was promoted to the rank of Honorary Major on the 1st January 1921. He is now a member of the Chamber of Princes. The former Wazir was dismissed and has been succeeded by Diwan Indar Singh.

Bashahr.

45. The Raja was selected to represent the minor Hill States at the opening ceremony of the Chamber of Princes at Delhi. He continues to take a great interest in the administration of the State, and the Tikka Sahib is doing exceptionally well at the Aitchison College. Owing to the introduction of departmental operations in the Bashahr forests which are leased to Government, there has been a temporary cessation of forest income, as the benefits of departmental working will take time to accrue; Government is considering the question of making special grants to the State on this account.

Nalagarh.

46. The chief event of the year was the tragic death of the Wazir, Chaudhri Ramji Lal, who was succeeded by Lala Raghubir Singh, late Manager of Baghal State. A new settlement superintendent, Lala Salig Ram, formerly Manager of Bija State, has been appointed in place of Lala Bihari Lal. There is still considerable unrest in the State on account of undue closure of grazing and excessive *begar*.

Keonthal.

47. The young Raja continues to make satisfactory progress at the Aitchison College. The title of Rai Sahib was conferred on the Manager, M. Sher Singh, in recognition of his long and meritorious services in the Simla Hills.

Baghal.

48. The Raja was given power to carry on the judicial administration of the State and now seems to be taking a more serious and practical interest in State affairs. Executive powers are still in the hands of the Manager.

Jubbal.

49. The Raja continued to administer the State, and particularly the forests, with great efficiency. The forest income of the State is still expanding and the Raja has been given greater powers of control.

Baghat.

50. The young Rana is doing well as Manager of the State, and most of the State debt has been paid. Rai Sahib Kanwar Amar Singh, the late manager, died in August 1920.

Kumharsain.

51. The Rana has administered the State with success. An heir was born during the year, but unfortunately died shortly after birth.

Bhajji.

52. The reports received of the Rana's progress at the Aitchison College were not satisfactory. A revenue settlement is being started in the State, with Chaudhri Baldeo Singh, late manager of Mailog, as settlement officer.

Mailog.

53. The Thakur has recently been in full charge of affairs in the State since the departure of the manager to Bhajji. During the year the Thakur married the sister of Raja Bir Sher Jodhi Singh of Barpali, in the Sambhalpur district.

Balsan.

54. Rana Bir Singh died on the 1st March 1920, and was succeeded by Rana Attar Singh, who was installed on the 14th of June.

Kunihar.

55. The Thakur is reported to be a keen administrator and enjoys the confidence of his subjects.

Mangal.

56. Rana Tilok Singh died on 15th February, 1920, and Rana Shib Singh was recognised as his successor, but the installation ceremony has not yet taken place.

Delath.

57. Thakur Narindar Singh died on the 22nd November 1920, and was succeeded by Thakur Devi Singh.

58. The affairs of other States call for no remarks.

FRONTIER AFFAIRS.

59. The peace of the border was comparatively undisturbed during the year, there being no raid of any importance. A series of reprisals between the Marris, Khetrans and Gurchanis was satisfactorily settled by the Chiefs' Jirga. A similar outbreak between two sections of the Gurchanis was suppressed by the prompt action of the Gurchani Tumandar, Khan Bahadur Sardar Hasan Khan.

60. Influenza and small-pox epidemics broke out among the Bozdars during the year, but vaccinators were promptly sent to the spot and gave valuable assistance in checking the latter. The hill population suffered severely owing to the failure of the rains since 1917. There was great scarcity of grass and fodder in the hills and the condition of the cattle, sheep and goats was deplorable. *Takkavi* loan amounting to a sum of Rs. 11,500 was distributed as follows :—Bozdars (Rs. 7,000), Gurchanis (Rs. 3,000), Kasranis (Rs. 1,500). The hill population have hitherto managed to tide over their difficulties by the sale of their sheep and goats, but they have now nearly reached the end of their resources in this direction, as the fodder scarcity has lasted for close upon 4 years. If necessary, relief works can assist the human population, but only rain can save their herds, which represent their capital and their only means of facing future difficulties, as the crops grown even in a good year are not nearly sufficient to support the population.

61. In the year under report the title of 'Khan Bahadur' was conferred upon Sardar Paind Khan, Bozdar Tumandar, and that of 'Khan Sahib' on Sardar Karim Dad Khan, Khetran, Tumandar of Vehoa. The powers of an Honorary Magistrate of the 3rd Class were granted to Khan Bahadur Sardar Paind Khan. For the new Punjab Council Khan Bahadur Sardar Jamal Khan, Leghari, was elected by the Tumandars, while Sardar Allan Khan, brother of the Drishak Chief, was elected by the Muhammadans of the district. The Hon'ble Nawab Sir Bahram Khan, Mazari, K.C.I.E., K.B.E., was nominated by Government as a member of the Council of State.

62. His Excellency the Governor of the Punjab visited the district in the month of November, and rewards amounting to Rs. 5,500 in cash and arms were presented by him to Bozdārs and Kasranis in recognition of their services in resisting Pathan attacks in 1919.

9.—Condition of the people.

63. The year was again a healthy one, the mortality from cholera being the lowest during the last two decades, while plague was not so prevalent as in the preceding year. The death rate from small-pox, too, though higher than the last quinquennial average, was less than the figure for 1919.

The birth rate increased by two-and-a-half per cent. and equalled the average of the preceding five years, while births registered in the province numbered well over a quarter of a million more than deaths.

64. An average spring harvest was followed by an unusually weak monsoon, which rendered conditions unfavourable for the sowing of crops and resulted in a poor autumn harvest. The cost of foodstuffs rose in consequence, the prices of wheat, barley and gram all advanced by more than thirty per cent. and stocks of food grains were seriously diminished. Labour commanded still higher wages than before and was difficult to obtain.

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CHAPTER II.

Administration of the Land.

Detailed information on the subjects dealt with in this Chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Realisation of the Revenue—Revenue Surveys and Settlements. — Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1920.

Professional Surveys.—General Report on the operations of the Survey of India for the year ending 30th September 1920.

Waste Lands and Government Estates.

1. Annual report on the Punjab Colonies for the year ending 30th September 1920.
2. Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1920.

Wards' Estates.—Report on the Administration of Estates under the Court of Wards in the Punjab for the year ending 30th September 1920.

Revenue and Rent-paying Classes.—Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1920.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agricultural Statistics of India, Volume I.

Area Totals—Table 1-J.
Classification of Area—Table 2-I.
Incidence of Land Revenue—Table 5-I.
Transfers of Land—Table 6-H.
Changes in Boundaries—Appendix B.

10.—Realisation of the Revenue.

FIXED LAND REVENUE.

Demand and Collection.

65. The demand of fixed land revenue rose from Rs. 236·61 to Rs. 239·39 lakhs, of which 96·9 per cent. was collected. The revenue suspended was only Rs. 2·69 lakhs and the total under suspension was reduced from Rs. 21·82 lakhs at the beginning of the year to Rs. 13·29 lakhs only at its close. In the Gurgaon district practically a lakh had to be suspended owing to damage from floods.

66. A feeble monsoon again resulted in only moderate floods; but this year the action of rivers, streams and torrents produced a net decrease in the cultivated area of 3,300 acres against an increase of 4,454 acres last year. The difference is attributable to the Sutlej which affected six districts and caused this year a net loss of 1,152 acres against a net gain last year of 6,600 acres; the Jhelum, on the other hand, caused a loss of only 479 acres or about one-fourth of the area carried away by it last year. The net loss to the fixed land revenue roll was Rs. 10,369 this year against Rs. 9,680 last year.

Riverain action.

Fluctuating Land Revenue.

67. The favourable agricultural conditions, combined with extensions of canal irrigation and the revision of the Dera Ghazi Khan Settlement led to an increase of Rs. 22·24 lakhs in the amount of fluctuating land revenue which was collected, the total sum being Rs. 155·62 lakhs. Of the total increase of Rs. 22·24 lakhs the Multan division alone contributed Rs. 13·89 lakhs, the Lahore division Rs. 4·09 lakhs and the Rawalpindi Division Rs. 3·49 lakhs.

Demand and Collection.

Other Land Revenue.

68. Collections of "other land revenue" increased by nearly Rs. 13 lakhs during the year, owing mainly to larger sales of proprietary rights in Government estates in the Canal Colonies. The uncollected balance at the close of the year was Rs. 1·06 lakhs, out of which the sum of Rs. 43,000 was due from Sheikhupura alone.

Rents and Sales.

Miscellaneous.

69. As was to be expected from the improvement in agricultural conditions the collection of the land revenue demand was attended with less resort to coercive processes than in the preceding year, the result being that only 9,084 coercive processes were issued during the year, against 9,597 in the preceding year. The south-western portion of the province as usual accounted for a large proportion of the coercive processes. This is attributable partly to the habitual unpunctuality of the revenue-payers and the scattered nature of the population in that tract. In the Lahore district difficulty in the

Coercive Processes.

collection of urban assessments is caused partly by the constant transfers of holdings.

Postal Process Service.

70. Some extension has been made in the system of serving through the post processes other than those for the recovery of land revenue, and where it has received a fair trial it appears to have been distinctly successful. In a few districts lack of postal facilities is said to be a stumbling block, but success or failure probably depends on the attention given to the experiment. So far it has not resulted in any reduction in the number of process-servers, but the other advantages attending this system make its more general adoption advisable.

Methods of payment.

71. The payment of land revenue and other dues through the post office by money-order and by means of insured currency notes is gradually increasing in popularity. Rupees 19·77 lakhs were paid by the former method and Rs. 7·91 lakhs by the latter. In the Rawalpindi district a remittance by currency notes was lost in the post and this misfortune has checked recourse to the practice. The Legislative Council passed a resolution in favour of the abolition of money-order fees in the case of remittances of land revenue and other Government dues but the Imperial Government declined to accept this proposal. In order to meet the convenience of revenue-payers Government has agreed to permit the payment of land revenue at the head-quarters of another district with the special permission of the Commissioner or Commissioners concerned.

Board of Economic Enquiry.

72. The Board of Economic Enquiry, whose inception was recorded in last year's report, has already embarked on some important investigations. Two joint sessions, under the chairmanship of the Financial Commissioner, were held during the year, at which the organisation and procedure of the urban and rural sections were determined and two subjects for investigation agreed on for each section. Rs. 1,800 were granted to the University to enable it to make an enquiry into the milk and *ghi* supply. Sub-committees were appointed (1) to consider the question of forming a Bureau of Statistics for the province; and (2) to arrange, in conjunction with the Public and University Libraries, for placing suitable literature at the disposal of the Board's members.

(i) Urban Section.

73. The urban section held three meetings and investigations were undertaken as to the family budgets of low-paid clerks and the family budgets and housing conditions of factory hands. For the former purpose 21 typical budgets were prepared by Mrs. Caleb and further data are being collected : for the latter suitable localities and types of employees were selected, the lines of the enquiry laid down, and some suitable investigators and supervisors appointed.

(ii) Rural Section.

74. A sub-committee of the rural section recommended that investigation of the general economic conditions of agriculturists be undertaken in a group of villages in the Hoshiarpur Tahsil. Professor R. L. Bhalla, of the Forman Christian College, was appointed investigator and a draft questionnaire was drawn up for his use. A similar enquiry in the Ferozepore district will be undertaken in due course. This section also agreed to investigate the question of the size and fragmentation of holdings, and the Registrar of Co-operative Societies undertook the supervision of the enquiry which is proceeding. A sum of Rs. 15,000 was assigned to the Board in the budget for the year. Out of this sum Rs. 1,800 was, as noted above, granted to the University, and Rs. 5,000 were allotted to each branch. Out of this sum, the urban branch actually spent just over Rs. 2,000 and the rural branch about Rs. 650..

11.—Professional Surveys.

Surveys of Riverain Areas.

75. The Punjab Riverain Survey party continued work on the Sutlej and Chenab rivers in connection with the Muzaffargarh, Multan and Montgomery Settlements. Three hundred and seventy-one linear and 429 square miles of main circuits and 2,650 linear and 491 square miles of minor traverses were executed, and 458 theodolite stations of the former and 11,590 of the latter in 143 villages were fixed in the area under river action. Corners of 266 squares were demarcated in 883 square miles with permanent markstones on both banks of the rivers Sutlej and Chenab to serve as a basis for the future survey and demarcation of village boundaries and fields in the beds of the rivers. The Settlement Officer, Multan, was supplied with 1,554 plotted and 474 boundary large scale mapping sheets and 34 four-inch sheets and two

index-sheets. Besides these, 395 boundary large scale mapping sheets were partly compiled and 222 miscellaneous traces were prepared and all the traverse stations marked during the year were plotted on 36 four-inch sheets. One thousand one hundred and fourteen stations were laid out and 189 linear miles traversed in five villages covering 20 square miles, in the course of a special survey of the suburban area of Multan, and 280 plotted mapping sheets were supplied to the Settlement Officer.

Town surveys, &c.

76. In Gujranwala 145 linear and three square miles of town traversing were done and 617 stations were laid out, also by the Punjab Riverain Survey party. The total expenditure of the party during the year was just over one lakh. Topographical survey operations were continued under No. 1 Party (Northern Circle) of the Survey of India, which surveyed an area of 4,957 square miles on the scale of 1 inch=1 mile, covering portions of Sirmur, Mandi, Suket and the Simla Hill States and of the Kangra and Hoshiarpur districts. An area of 441 square miles in the Gurgaon district was also surveyed by No. 2 Party (Northern Circle).

Rectangular surveys.

77. Rectangular survey operations in connection with the Sind-Sagar Canal and Colonization project were continued during the year by the Sind-Sagar party with the assistance of a revenue staff of naib-tahsildars, kanungos and patwaris deputed for the purpose. The party sub-divided 603—4,000-acre rectangles (partial and complete) into 22,714—100-acre rectangles over an area of 3,549·1 square miles in the Mianwali, Muzaffargarh and Jhang districts, leaving 120—4,000-acre rectangles (partial and complete) to be similarly sub-divided in the field season 1920-21.

Sub-rectangulation work.

78. A party of the revenue staff was formed during the year and placed under the charge of an extra assistant commissioner to sub-divide the 100-acre rectangles laid down by the Survey Department into ten-acre rectangles. This party laid out on the ground 57,180 ten-acre rectangles in the Mianwali district. Of these the corners of 6,710 ten-acre rectangles have been permanently marked with stones and of the others with wooden pegs pending the supply of stone pillars.

79. The following lines of precise levelling were run in the Punjab during the year :—

Revisionary and new levelling.

(*a*) Revisionary levelling from Ferozepore to Ludhiana which is part of the line from Ferozepore to Meerut, originally levelled in 1860 to 1862.

(*b*) New levelling from Amritsar to Ludhiana.

(*c*) New levelling in the Sind-Sagar Doab for the Irrigation Department (*i*) from near Leiah to Shorkot Road Railway Station and (*ii*) from near Khairanwala to near Wanbhachran Railway Station.

The total distance levelled, including branch lines, was about 410 miles, out of which in the line from Amritsar to Ludhiana about 21 miles lie through the territories of the Kapurthala State.

80. With effect from 1st November 1919, 129 villages, containing 115,202 acres, were excluded from the Sialkot district and added to the Gujranwala district. The whole of the Khangah Dogran and Sharakpur Tahsils of the Gujranwala district, comprising an area of 1,133,741 acres, with 91 villages transferred from Lahore and measuring 89,166 acres, were formed into the new district of Sheikhupura. Two boundary disputes between British villages of the Montgomery district and the estates lying within the territory of Bahawalpur State were decided during the year. The check of the Multan-Bahawalpur boundary was continued during the year and is now almost complete. Attempts to correlate the new maps of Dera Ghazi Khan with those of Bahawalpur State by means of direct communication between the Settlement Officer and the Mashir-i-Mal were unsuccessful: the matter is now under the consideration of the Commissioner.

Boundary delimitation.

12.—Revenue Surveys and Settlements.

81. There were five settlements in progress during the year. In the Sirsa Tahsil settlement operations began in October 1919. In Ambala before the new settlement terminated in March 1920, the new assessments in the Jagadhri

Settlements begun and in progress.

Tahsil and in the Morni hill tract of the Naraingarh Tahsil were announced and the internal distribution completed. Settlement operations opened in the Dipalpur and Pakpattan Tahsils of Montgomery in October 1919 and since then out of a total area of 1,529 square miles existing maps have been corrected or new maps made for 684 square miles included in 394 estates, leaving 491 estates still to be dealt with. The revision of records has been interfered with by interruptions such as the quinquennial cattle census, the preparation of electoral rolls, the general census and some dissatisfaction among patwaris on the subject of pay. In Lyallpur the record-of-rights of the 27 estates mentioned last year was completed.

Final Settlement Report.

82. No Final Settlement Report was submitted to Government during the year.

Settlements completed.

83. The Ambala Settlement was brought to a close and that of the Dera Ghazi Khan district was practically completed.

Re-settlements.

84. Forecast reports of the Jhang district (old villages) and of the tracts comprising the colony villages on the Jhang Branch and Bhangu Extensions of the Lower Chenab Canal in the Jhang District had to be called for during the year. Settlement operations in all of these tracts are due to begin in November 1921, provided that necessary funds are sanctioned by the Council. For the tract irrigated by the Lower Jhelum Canal in Shahpur, a further forecast report was called for. The term of this settlement was fixed at 10 years and is due to expire in *rabi* 1922.

13.—Land Records.

Patwaris.

85. Patwaris have maintained their record for good conduct and efficiency in the performance of their multifarious duties in connection with the land revenue records, cattle-enumeration and preparation for the census, and have helped to make the first general elections a success. Dismissals have decreased from 117 to 102 and there is a marked decline in the number of minor punishments. Patwaris as a class have shown little disposition towards agitation of a political nature, and any trouble that occurred was due to their desire for an improvement of pay. During the year under report they

received substantial concessions; in the matter of pay they gained in rates, and also in the frequency and convenience of its distribution; travelling allowance is now granted for all journeys by road; leave rules have been liberalised and satisfactory housing is in prospect; it is hoped too that the Government of India will sanction the establishment of a provident fund for them.

Kanungos.

86. In the case of kanungos, as of patwaris, the year brought substantial improvements in the matter of pay and allowances. The work of the kanungos during the year is favourably reported on, and attention is drawn to their abstention from agitation, on their own account, and their endeavours to minimise it among their subordinates, especially in Sialkot. The work of district kanungos appears on the whole to be satisfactory and to show signs of improvement, but still requires careful supervision, direction and control on the part of their superior officers. Ten kanungos were promoted to naib-tahsildarships and other superior posts, as against nine in the preceding year.

Accessibility of revenue records.

87. It was decided in May 1920 to extend experimentally to revenue courts in eight districts the scheme of appointing a special kanungo to make the contents of revenue records more readily accessible to litigants. The danger of courts using the special kanungo as a general referee on the contents of land records was met by instructing inspecting and appellate officers to watch for and restrain any such tendency, and to guard against any abuse of the convenience.

State of records.

88. The progress in measurement and record work in Multan was seriously impeded by the same causes as are mentioned in paragraph 81 above. The work, however, was kept up to date and in addition the grading of wells throughout the district and the preparation of files relating to fruit gardens in two tahsils, both operations being undertaken for purposes of assessment, were very thoroughly dealt with, so that little now remains to be done. The measurement and record work in the Multan, Shujabad and Lodhran Tahsils was inspected by the Director of Land Records, who reported favourably on the standard of work attained. The attestation of the new records of Jampur and Rajanpur Tahsils was finished and the records completed and filed. The hill torrent irrigation records of

the Dera Ghazi Khan, Jampur and Rajanpur Tahsils were prepared during the year, as well as the records-of-rights in date trees in Dera Ghazi Khan Tahsil. This completes the preparation of the various records for the district except that of the new town of Dera Ghazi Khan. The measurements of the new town have been finished, but the records are still to be prepared.

14.—Waste Lands and Government Estates.

The Lower Jhelum Colony.

89. Agricultural conditions in the Lower Jhelum Colony in the year under review were favourable. Harvests were good, prices and rents ruled high, and the rates obtained in sales and leases of agricultural land increased. In the towns also, the rents of houses and shops have risen and record prices have been obtained at auction of sites. Horse-breeding operations were successful, thanks mainly to the peasant breeder. The *sufedposh* grantee is reported to take little interest in horse-breeding, and only two out of the five stud farms are really satisfactory. Two thousand and forty acres were allotted during the year under report as compared with 1,443 acres last year. Out of this area, 650 acres were devoted to exchanges for grants made originally in the Lower Bari Doab Colony, and 814 acres to recruiting reward grants. The proposal to take over from the Military Department the lands to be released from camel browsing in Rakhs Dhrema and Risala, on the extension of irrigation in consequence of the remodelling of the Lower Jhelum Canal, is still under consideration. It has been ascertained that the 53rd Silladar Camel Corps, which is to be shifted from Rakhs Dhrema and Risala, cannot be accommodated in the neighbourhood of Sargodha, and that in any case it would be necessary to reserve one-third of these rakhs for camel browsing. The co-operative movement has spread in the colony and progress has been made with the provision of facilities for education. The state of communications is not satisfactory and it is hoped that the Communications Board may be able to effect some improvement now that its attention is to be drawn to the matter. An extra officer was appointed temporarily as Colony Assistant.

The Lower Bari Doab Colony.

90 The Lower Bari Doab Colony is at present the most interesting of all the Punjab colonies. The report of operations in the past year reveals the transformation of a desert into a

fertile country, where wheat and cotton are grown on something like scientific lines, novel experiments in agriculture, fruit-growing, cattle-rearing, horse-breeding and distribution of water are in progress, villages and towns are springing up, roads are being made and co-operative methods are spreading. The main feature in the history of the colony during the year has been the allotment of grants to military men selected under the orders of the Commander-in-Chief. About half the total area reserved for the Army has now been allotted and many new problems have arisen in consequence. That they will be dealt with in a spirit of sympathy and tactfulness is indicated by the Colonisation Officer's experiment of handing over to committees of Indian Officers the responsibility for reporting breaches of conditions, thus eliminating the opportunity for vexation and corruption which subordinate revenue officials enjoyed under the old system. The year was fairly successful from the agricultural point of view, although a hail-storm and late rains went some way to spoil what promised to be a bumper spring harvest. Prices were good and their effect is seen in the results of the auctions of land which fetched an average of Rs. 593 an acre. The Colonisation Officer is optimistic with regard to the chances of reclaiming inferior lands and special inducements are being offered to tenants with this object. Success has not yet been achieved with "bara" lands of which there is a very large area in the colony. The state of communications is not satisfactory and the Financial Commissioner has suggested that in future schemes of colonisation communications should form an integral part of the project. This recommendation will receive the careful consideration of Government. It is clear that a more speedy development of communications in the colonies is essential if their progress is not to be seriously impeded. The enormous area under temporary cultivation (381,016 acres in *kharif* 1919 and 442,215 acres in *kharif* 1920) indicates the special obstacles to permanent allotment in the Lower Bari Doab Colony, but it must now diminish rapidly with the arrival of the soldier grantees. When the latter were on field service such a system was inevitable and with all its faults has proved very useful. It has provided an outlet for excess canal water which otherwise would have run to waste, has brought an enormous amount of money to Government and has helped to produce good crops.

The Upper Chenab Colony.

91. The Upper Chenab Colony has made some progress but is far from having reached a satisfactory position. An inferior soil, with irrigation confined to the autumn harvest over a considerable portion of the colony, has militated against its development. The year under review, however, gave signs of some improvement. Wells are being constructed and the colonists, who hitherto used to return to their homes in the spring, are beginning to settle permanently on their grants. Orders have recently been passed which should lead to greatly increased efficiency in irrigation arrangements. Vexatious, though well-meant, restrictions on the irrigation of well lands have now been removed and the entire system has been simplified. The expectations formed of the utility of the two brick kilns at Kala Shah Kaku and Marh Bhagaon have been more than realised, especially in the case of the kiln at Kala Shah Kaku. Its contractors have faithfully carried out the conditions of their contract and have supplied bricks to 37 wells.

The Upper Jhelum Colony.

92. The report of the Upper Jhelum Canal states that the harvests were good. The construction of the market at Pindi Baha-ud-din is proceeding: road metalling, street pavements and drainage works are under construction. The request of the owners of the land taken up for the *mandi*, that they should be given land in exchange in lieu of cash, has been acceded to by Government.

15.—Wards' Estates.

Management.

93. Three estates were released and two brought under management during the year. The estate of Khan Bahadur Makhdum Hasan Bakhsh, which in 1904 was in debt to the extent of over Rs. 1¾ lakhs, was entirely freed from debt, while in the other two estates released from management not only have their debts been cleared off but their total assets show an enormous increase. Satisfactory progress was made generally in the repayment of debts, especially in the case of the Sidhowal and Arnauli estates, but the continued high cost of immovable property checked the purchase of land and house property.

Finance.

94. Nearly Rs. 1½ lakhs were invested in Government securities, or more than double the figure for the preceding year. On the other

hand, cash balances lying idle in the Treasury exceeded Rs. 10 lakhs. The amount advanced to tenants and expended on permanent improvements fell from Rs. 1·67 lakhs to Rs. 1·08 lakhs, and the reports show that while the experience of the Court of Wards with tube wells has not been encouraging, various farms, such as the sheep farm at Jalalabad, have done well and provide a useful demonstration in new methods to agriculturists who have not the capital required for experiments. The total liabilities at the end of the year amounted to Rs. 9·29 lakhs, or only a little over 2 per cent. of the total assets.

Rents.

95. Recoverable rent in arrears amounted to Rs. 1·59 lakhs as against Rs. 2 lakhs in the previous year. These arrears were due to the slump in cotton prices and in some cases to negligence on the part of managers, the estates principally affected being those of Sher Shah, Arnauli, Sidhowal and Guru Harsahai. On the other hand, all the rents due to the Kote estate were realised and in the Mamdot estate, with a demand of over Rs. 2¼ lakhs, only a small fraction was left uncollected. The relations of the Court of Wards with its tenants were generally excellent.

Education.

96. No less than 22 wards and their relatives are now being educated at the Aitchison College, three are in the Government College, two at the preparatory school attached to Queen Mary's College, and eight in local or commercial institutions. Good reports are received of the Sardar of Kote, who is at Sandhurst, and of the ward of the Khandola estate who was sent to Edinburgh to study medicine in May 1920, and is now at St. Andrews.

16.—Revenue and Rent-paying Classes.

General.

97. The total area of the province, according to the entries in the latest revenue records, is 56,456,000 acres or 187,000 acres more than that of 1918-19. The increase occurs principally in Multan, Lyallpur, Kangra, Montgomery, Ferozepore and Gujrat. The cultivated area this year has increased by 11,000 acres on the area of 29,049 million acres last year. The increase occurred in the districts of Gujrat, Shahpur, Mianwali, Lyallpur, Jhang, Multan, and Dera Ghazi Khan

and is due partly to canal extensions and partly to increased cultivation of the Sind-Sagar Thal. The cultivated area under mortgage has decreased by more than 62,000 acres, compared with an increase of 36,000 acres last year. The cultivated area under mortgage is 10·8 per cent. of the total cultivated area, as against 10·9 last year.

Loans under the Land Improvements Loans Act, XIX of 1883.

98. The amount advanced for land improvements was Rs. 1·87 lakhs, which is slightly more than last year. This sum was spent mainly on the construction of wells, of which 288 were made with the aid of loans from Government, while 2,526, or nearly nine times as many, were built without Government assistance. The punctuality with which Government loans are realised militates against their popularity, but considering the low rates of interest charged—6¼ per cent.—and the fact that instalments are suspended in bad years, it is fairly clear that the financing of land improvements from private sources, including co-operative banks, presents little difficulty to the Punjab agriculturists.

Loans under the Agriculturists Loans Act, XII of 1884.

99. As was to be expected from the improved agricultural conditions advances under the Agriculturists Loans Act fell from Rs. 8·9 lakhs in 1918-19 to Rs. 3·1 lakhs in the year reviewed. Little progress was, however, made with the recovery of outstanding debts, and the result of the year's working under this Act was a loss of Rs. 12,307 to Government. This is partly accounted for by the fact that the districts which were most severely affected by the drought of the previous year had not yet recovered. This view is borne out by the figures for demand for loans, which were heaviest in Gurgaon (Rs. 56,000), Attock (Rs. 41,200), Dera Ghazi Khan (Rs. 40,980), Muzaffargarh (Rs. 29,950), Multan (Rs. 24,310), Jhelum (Rs. 25,650), Sialkot (Rs. 21,360), Montgomery (Rs. 21,110), and Mianwali (Rs. 20,985). In Sialkot the purchase of a superior type of bullock was encouraged by the distribution of loans in the villages.

Transfers.

100. The cultivated area (ownership) sold during the year was 142,823 acres, a slight increase over that sold in the previous year. Sales of uncultivated land (ownership) have also increased from 1,796 acres to 80,226 acres. The districts in which the

largest areas of cultivated land were sold this year were Hissar, Ferozepore, Attock, Ambala, Rohtak, Karnal and all the districts of Multan division. In Hissar the increase was due to the sale to the tenants of certain estates owned by absentee proprietors. In Muzaffargarh the prospect of the Sind-Sagar Canal continues to stimulate purchase by agriculturists of outside districts, not disqualified under the Alienation of Land Act. The local officers, on the whole, regard the advent of such immigrants as beneficial. The total cultivated (ownership) area reported as redeemed (including areas redeemed but re-mortgaged) during the year was 349,398 acres against 261,920 acres in the preceding year and the mortgage debt discharged was Rs. 422·56 lakhs against Rs 216·04 lakhs in 1918-19. All districts, except seven, share in the increase, especially Ferozepore, Gujrat, Ludhiana, Lahore and Amritsar. Ludhiana and Amritsar, like Ferozepore, are reported to favour redemptions at the cost of sale, or more profitable re-mortgage of other areas. In Gujrat, earnings from military service are said to be an important factor. The figures of redemption for the year are, so far as they go, satisfactory and indicate a further return to the pre-war standard of redemption. In the twelve districts for which figures of area are reported more than 8,000 acres were redeemed and opinions are unanimous in describing the Redemption of Land Act as popular and beneficial. The cultivated area (ownership) mortgaged during the year was 260,811 acres against 210,543 acres in the preceding year. At the end of the year the total cultivated area under usufructuary mortgage was 3,116,749 acres or 62,473 acres less than the total area under mortgage at the close of 1918-19. In contrast to these figures the mortgage debt redeemed during the year amounted to Rs. 422·56 lakhs, whereas the mortgage debt freshly incurred by new mortgages or by re-mortgages of redeemed areas amounted to Rs. 488·40 lakhs. The increase in total mortgage debt secured in agricultural land has thus been Rs. 66 lakhs as compared with Rs. 95 lakhs, the figure for the preceding year. The broad conclusion is that while the total area under usufructuary mortgage in the province is diminishing, the total debt secured shows a progressive increase. The area (ownership) transferred by gifts was 84,000 acres and, as before, is accounted for mainly by transfers for religious and charitable purposes, but it is interesting to notice that more than half the annual increase

is due to two cases in the Shahpur district, in one of which the rival claimants to a vacant zaildari obtained gifts of land from their supporters, with a view to strengthening their social status, while in the other case, a father gave land to his son with the object of enhancing the son's chances in the Council elections. The area transferred by exchanges was 40,000 acres.

Value of land.

101. The average recorded price of cultivated land has risen from Rs. 184 per acre in 1918-19 to Rs. 275 in the year under report, the highest figure on record. The rise with a few exceptions is general and is due to the continued high prices of agricultural produce. In Sheikhupura the rates are somewhat inflated by the price paid for the valuable Warburton Estate, which included house property. In Multan, sales of colony land by auction forced up prices. Similarly, in the few districts in which a fall in the price of land is reported special factors came into play. In Hissar, large areas were sold by absentee landlords. In Muzaffargarh, the land sold was of inferior quality. The sale price for the province as a whole represents 199 years' purchase of the land revenue assessed, as against 127 years' in the previous year. The mortgage value of land, the ownership of which was mortgaged during the year, was Rs. 488·40 lakhs and represents 131 times the land revenue assessment of the land, against 97 times in the previous year. The average mortgage money per acre on the whole area mortgaged was Rs. 163.

Land Alienation Act.

102. No new tribe was notified under the Land Alienation Act. Agricultural tribes gained by purchase a net area of 26,000 acres against a gain of 41,000 acres in the previous year, but lost by mortgage and redemption taken together 43,000 acres against a loss of 49,600 acres in the previous year. Sales by agricultural tribes show an increase from 154,000 acres to 166,000 acres; sales to them having decreased from 195,000 acres to 191,968 acres. Sales to "others" have also increased from 37,000 to 51,000 acres. The Act continues to work well and is highly appreciated by the tribes protected by it.

Rent-paying classes.

103. The number of suits brought for enhancement of rent was 878, of which 706 were successful. Ambala and Jullundur districts, which have recently been settled, accounted for more than

half the total. None of the 12 suits for reduction of rent succeeded. There were 15 decrees for ejectment of occupancy tenants under section 39 of the Tenancy Act as against 11 in the preceding year. The total number of ejectments of occupancy tenants actually made was 52. In the case of tenants-at-will the total number of applications for service of notice of ejectment, of notices of ejectment issued, and of ejectments ordered is nearly double the number reported last year, the aggregate number of cases having risen from 2,838 to 4,910. The increase is due to temporary and, to some extent, accidental causes, the high value of agricultural produce naturally tempting landlords to enhance rents.

MISCELLANEOUS.

Punjab Land Preservation (Chos) Act.

104. With regard to the reclamation of the Chos and re-afforestation of the Siwaliks, the most notable feature of the year has been the attempt to induce the people of the villages mainly affected to adopt the remedial measures prescribed in the Chos Act voluntarily rather than under the orders of Government. This policy is now being further extended under the advice of Mr. Courthope, Conservator of Forests, whose experience of similar work in the United Provinces is likely to prove of great value in the Punjab. That the Chos Act has produced benefit to the people is apparent from the fact that in the villages where its more stringent provisions are in force the supply of fodder has been more abundant than elsewhere, and the villagers have benefited by its sale. Its working, which has formed the subject of some discussion in the Legislative Council, is now to be the subject of a special enquiry. In the Ambala district the year under report was largely occupied with preliminary investigation, assessment of compensation and measurements for procedure under section 5 of the Act, proceedings under section 4 having already been finished. In Hoshiarpur the 9 villages to which section 5 applies have greatly benefited thereby. A scheme was submitted by the Deputy Commissioner, Hoshiarpur, during the year in which he proposed to extend to the remaining 126 villages, already notified under section 4, the provisions of section 5 of the Act. The Financial Commissioner, however, was opposed to the indiscriminate application of the provisions of section 5 to the whole of the villages on account of the prohibitive expense involved and of the resentment likely to be aroused by such

action. He agreed to the application of section 5 to 11 villages previously designated for this purpose on expert advice and to consider proposals for a limited number of other villages. In 10 villages situate in the Maili Cho (Garhshankar Tahsil) action was taken during the year on the lines proposed by the late Deputy Commissioner of the district for the protection of land and for straightening the Cho channel (vested in Government); in pursuance of this plan the *zamindars* constructed *kacha* bunds about 6,300 feet long. Rs. 670 were distributed among the *zamindars* in the district from the Government grant-in-aid of works in progress. A good stock of trees was planted by the *zamindars* during the year, but unfortunately the trees succumbed to drought. Efforts are being made to give effect to the scheme of consolidation of holdings advocated by the co-operative societies in the Chos areas as well as in other tracts.

Descent of Jagirs Act.

105. The number of *jagirs* notified under the Act remains at 149.

CHAPTER III.

Protection.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Police.—(1) Report on the Police Administration of the Punjab for the year 1920.

(2) Report on the working of the Criminal Tribes Act for the year 1920.

(3) Report of the Chemical Examiner to Government, Punjab, for the year 1920.

Criminal Justice.—Report on the Administration of Criminal Justice in the Punjab and its Dependencies during the year 1920.

Prisons.—Report on the Administration of the Jails in the Punjab for the year 1920.

Civil Justice.—Report on the Administration of Civil Justice in the Punjab and its Dependencies during the year 1920.

Registration.—Report on the Administration of the Registration Department of the Punjab for the year 1920.

Legal affairs of Government.—Report on the Administration of Legal Affairs of the Government of the Punjab for the year 1920.

Local Boards Administration.—Report on the Administration and Accounts of the District Boards in the Punjab for the year 1920-21.

Municipal Administration.—Report on the working of Municipalities in the Punjab during the year 1920-21.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume IV, Administrative and Judicial (including area, population and local funds).

17.—Legislating Authority from 1st April to 31st December 1920.

106. No changes took place amongst the members of the Council.

18.—Course of Legislation from 1st April to 31st December 1920.

Meetings.

107. Only one meeting was held, at Government House, Lahore, on the 6th April 1920.

Bills.

108. No Bill was introduced or passed in Council.

109. Three resolutions were moved regarding—

Resolutions.

(1) increase of remuneration of sub-registrars,

(2) a thirty per cent. increase in the salaries of Government servants drawing Rs. 30 per mensem or under,

(3) making provision in the next census for the preparation of tables of boys and girls of school-going age in connection with primary education.

Of these Nos. (1) and (2) were lost and (3) was carried.

110. Forty questions were put and answered.

Questions.

111. The budget for 1920-21 was introduced.

Budget.

INDIA ACTS.

112. No Acts particularly affecting the Punjab were passed by the Imperial Legislative Council during the year.

19.—Police.

Increase in cognizable cases.

113. A further, though slight, increase in the total number of true cognizable offences of all kinds dealt with by the Police has again occurred during the year under report (38,544 cases against 38,002 in 1919). Omitting petty crime the advance was approximately two per cent.

Causes of increased crime.

114. Several of the adverse circumstances which accounted for a considerable rise in crime last year were unfortunately in existence in 1920, but it is open to doubt whether the political situation and the non-cooperation movement produced any marked effects outside the towns, though they may have conduced slightly to the increase in some areas. It is noticeable that the increase was mainly confined to districts of the Central Range and was due to economic factors, general unrest and weakening of regard for authority. In the Colony districts in this area, where social and economic conditions have been changed and the very composition of the population altered by the new settle-

ments, the rapid accrual of wealth and the enterprising character of the population have probably been contributing causes. The present figures still fall short of those of pre-war years not only in the total of all classes of cognizable crime but also in the aggregate numbers of *dakaitis*, burglaries and cattle thefts.

Relations with the public.

115. In the absence of organised disturbances such as those which happened in 1919, co-operation of the public with the police was not put to such a heavy strain and rewards were less freely granted, the sum distributed (about Rs. 20,000) being roughly only half of what was bestowed in the preceding year. Amongst recipients of such rewards were 140 zaildars, 431 lambardars and 392 chaukidars. At the close of the year ten punitive police posts were in existence.

Murders.

116. No special reason has been assigned for the rise in the number of murders from 509 to 550, the highest figure in the quinquennium. Lahore, Attock, Rawalpindi, Dera Ghazi Khan and Ferozepore headed the list in this respect, while the districts of the Central Range principally accounted for the increase of 41 cases. The most noteworthy cases were those (*i*) of a deserter who by the throwing of a hand-grenade killed a lambardar and his son and later returned to shoot dead, in broad daylight, one of the witnesses to his previous crime; (*ii*) of armed attacks upon two railway guards travelling in their trains through the Attock district; and (*iii*) of the shooting of the driver of a mail tonga running between Lawrencepur and Hazro.

Dakaitis.

117. Only twice in the last ten years has the number of true cases of *dakaiti* been as low as the total (80) reported in 1920. The most striking feature in this class of crime was the number of offences committed by gangs from across the border, who owing to famine in their own districts resorted to raiding the districts of Attock and Mianwali. Measures were taken last year to deal with raiders into the Isa Khel tahsil of Attock by the strengthening of the police force, and a further increase has recently been sanctioned. Arrangements have also recently been made for the extension of telephones to link up Isa Khel with the police posts of the neighbouring frontier districts, while in the Bannu district a chain of posts has been established with the object of

intercepting raiders on their return journey. Fire-arms have been more frequently employed by *dakaits* than in former years, but in several cases the villagers boldly turned out and joined the police in pursuing their assailants.

Burglaries and thefts.

118. True cases of burglary rose from 13,239 to 14,179, representing an increase of a little over 7 per cent., while ordinary theft cases declined from 6,325 to 5,962, or 6 per cent. The high prices obtained for good plough cattle led to an increased number of cattle thefts, especially in the riverain area between Amritsar and Gandasinghwala in the Lahore district.

Results of police work.

119. The percentage of cases convicted to true cases reported, of cases convicted to cases tried and of persons convicted to persons tried (28, 70 and 54 respectively) show a falling off from the figures for the previous year (31, 72 and 57 respectively). It is always difficult to assign definite reasons for variations of this nature, but possibly the under-staffing of the police and of the criminal courts, resulting as it does in great pressure of work, and also the inadequacy of the prosecuting staff in the conduct of ordinary criminal trials, may be held to be partly responsible for the comparatively unsuccessful working exhibited in the above figures.

Preventive measures.

120. The number of persons called upon to furnish security for bad livelihood shows a small decrease of 104 persons from 2,230 to 2,126. As in the last year security was more freely taken in the Western and Central Ranges than in the Eastern Range. In some areas a difficulty is experienced in inducing persons to give evidence against known bad characters probably owing to fear of reprisal at the hands of the criminal, a fear that may not be altogether unfounded. The number of persons restricted under the Habitual Offenders' Act rose from 1,471 to 2,048. The Act is said to be proving useful in dealing with cattle thieves, althoug hadmittedly it has not had the effect of reducing the total number of cattle thefts hitherto.

Criminal Investigation Department.

121. The work done in the Criminal Investigation Department was of an unusually onerous character. The attitude of many of the released Martial Law convicts was unsatisfactory and returned Sikh emigrants again began to take part in anti-

Government agitation. The North-Western Railway strike, the Hijrat movement and the adoption of non-cooperation by the Sikh League in October threw a heavy burden on the department. As a further indication of its activities, it is worthy of notice that records were taken of over 1,400 public political meetings, 375 of which were attended by officers of the department to report on the speeches delivered. This latter duty is, unfortunately, becoming singularly unpleasant because officers are constantly subjected to vilification and at times even threatened with personal violence. Able investigation work was done in the Gujranwala bomb case, in which bombs and fire-arms were found to have been brought into India from the Chamarkhand colony of Hindustani fanatics with the intention of committing outrages on Europeans. With the help of this department, too, a band of *dakaits*, who were implicated in more than sixty cases of *dakaiti*, was run to ground, and eighteen accused were sentenced to terms ranging from 3 to 25 years' imprisonment.

Finger print bureau.

122. The total number of finger print slips on record rose by 14,573 to 289,287. Search slips received by the bureau were about 2,000 less than in the preceding year, the percentage of cases traced being slightly higher. Of the 5,626 persons traced by the bureau, 5,155 were old convicts. Expert evidence was given in 1,604 cases, as compared with 1,339 in 1919 and 1,058 in 1918.

Railway police.

123. This department investigated 3,401 cognizable cases as against 2,916 in the previous year. It is reported that part of the rise in railway crime is due to the fact that the attention of the ordinary criminal is being increasingly diverted towards the rich and easy plunder of the railway line, and greater skill and daring are being shown in carrying out thefts in running trains and goods wagons. It is hoped that the measures recently recommended by the Railway Commission will lead to a decrease in this class of crime.

General.

124. Revised rates of pay for the non-gazetted ranks of the force were introduced with effect from the 1st April 1920, and this revision and the extra duty allowances sanctioned for upper subordinates resulted in an increased expenditure of Rs. 16·47 lakhs. A similar revision of pay was effected in the clerical

establishment of administrative offices. The improved prospects in the service were reflected in the reduction of resignations by 18 per cent. as compared with the preceding year, and recruits were readily found in all the districts of the province except Simla. Six police officers received the King's Police Medal and nine were granted honorary titles, while three officers and 174 men were dismissed from the force during the year.

Criminal Tribes.

General.

125. The year under review saw a considerable change of policy in the administration of the Punjab criminal tribes. More attention was paid to improving the conditions of the present inmates in the settlements than to the drafting in of fresh gangs. Necessaries of life were supplied to indigent inmates and the co-operation of the Medical Department was secured in providing medical aid where needed. Transfers to industrial settlements were practically limited to habituals, the remaining inmates not so classified being gradually released. The evil consequences following the transfer of a bread-winner to a settlement and the hardship thus entailed upon his family were overcome by an amendment of the rules, which now permit the registration and transfer of whole families. Efforts were made to secure for the inmates of the industrial settlements as congenial work as possible. The importance of the economic factor in the reformation of these tribes was realised, and steps were taken to prevent "sweating" and to raise wages where they were below the market rates.

Number on registers.

126. The amendment of the rules noticed above and the addition of youths who in the course of the year became liable to registration brought the total of fresh registrations up to 2,508. Owing to cancellation, deaths and transfers, the total number of registered members outside settlements fell during the year from 23,310 to 15,709. This, however, did not affect the total population of the criminal tribes to any considerable degree. The population within the settlements rose from 3,560 male adults, with a total population of 3,708 souls at the end of the year 1919, to 3,620 male adults, with a total population of 8,594.

Revision of classification.

127. As a result of the revision of the classification of registered members of the notified criminal tribes, 8,597 registered members have been exempted from the operations of the Criminal Tribes Act out of a total of 21,480, and 2,278 have been marked for lenient treatment under section 10-A of the Act. Of the latter class, however, only 359 have been notified so far and in view of the nominal relief from restrictions which under the present rules such a notification affords, arrangements are being made to remove from the registers the names of such men as are eligible for total exemption under rule 24 of the rules framed under section 20 of Act 3 of 1911, and to notify only the rest under section 10-A.

General results.

128. The stringent control now exercised and the fear of the possibility of transfer to a settlement have had a very salutary effect on criminal tribesmen who used to go about begging and stealing. Most of them have now taken to a fixed occupation, mostly agricultural. Under the changed conditions even the wandering tribes are realising the futility of their former vagabond existence and are settling in villages and building houses for themselves.

Education.

129. Ordinary schools are provided in all settlements for boys as well as girls, some of whom have shown remarkable progress. The continuance of systematic education should prove beneficial in weaning the younger generation from their hereditary pursuits, but the employment of unqualified teachers means that the best results are not obtained. With a view to improving technical education a weaving school has been opened at Palampur; the reformatory factory at Amritsar has been extended so as to provide training classes for a larger number of youths, and carpentry and shoe-making industries have also been started in two settlements of the Sialkot District.

Settlements.

130. Of the 13 industrial settlements, five were discontinued because of unfavourable conditions and five new ones were established at other localities during the year. The Dhariwal settlement was closed on 15th April. Regular work was secured for all inmates of the industrial settlements and in most cases the wages earned sufficed for the subsistence of the families. The transfer of families reduced the number of escapes. In

addition to the three old and seven new agricultural settlements, which existed at the close of the previous year, one old and three new agricultural settlements were established during the year. Agricultural conditions during the year 1920 were generally unfavourable and in some cases the earnings of the tenants had to be supplemented by recoverable advances, but notwithstanding this the transformation which was wrought in the habits and modes of living of the nomads settled on land was remarkable. Almost all the religious societies of the province have been associated in this philanthropic work and receive subsidies from Government to meet their expenses. The Salvation Army has during the year been handicapped by lack of suitable officers, but thanks to the keen interest evinced by Commissioner Bullard the work in the settlements under his charge has been progressing steadily. Of the Indian societies the Ahmadiyya Anjuman-Ishait-i-Islam, the Dev Samaj, the Arya Samaj, the Sanatan Dharm Sabha and the Chief Khalsa Dewan have done equally well during the year.

Convictions.

131. The criminality of the notified criminal tribes so far as it is evidenced by their convictions has, owing to stringent control, decreased considerably, for notwithstanding prevailing economic conditions the percentage of total convictions comes to 2·3 as compared with 3·1 of 1919 and 10·8 before 1917, the year in which operations were started under the Criminal Tribes Act.

Financial.

132. Against a total allotment of Rs. 2½ lakhs for the financial year 1920-21, the total expenditure amounted to Rs. 2·35 lakhs, Rs. 61,000 initial and the rest recurring. The sale of products from the Amritsar factory and the lease of unallotted land in the agricultural settlements yielded an income of about Rs. 36,000.

Co-operation of Native States.

133. Almost all the Native States adjoining the province have adopted measures on the lines of the Criminal Tribes Act for the registration and restriction of tribesmen and almost all the States, except the Nabha Darbar, have agreed to a proposal made during the Conference of Native States held at Lahore on 1st and 2nd November 1917 for the exchange of tribesmen wanted for non-extraditable offences. This agreement obviates the necessity of lengthy correspondence and helps to expedite proceedings. Owing to its close proximity

to the Central and Eastern Punjab districts, a similar arrangement is desirable with the Nabha Darbar. In all other necessary measures the Native States have extended wholehearted co-operation.

Recruitment.

134. The total number of men who enlisted during the year is 26. Of these five enlisted as combatants and the rest as non-combatants. Owing to the demobilisation of several units the total number serving in the Army fell from 1,541 during the year 1919 to 1,142 in the end of 1920. The interest in military service awakened during the war still continues and from many places voluntary offers received for military service had to be refused for want of any immediate necessity.

Chemical Examiner.

Laboratory.

135 In July 1920 the laboratory was moved from its former situation in Anarkali to a new building near the Jail Road. When the approaches have been completed and the surrounding waste land has been properly levelled, the new laboratory will be one of the finest of its kind in India.

General and medico-legal cases.

136. The number of cases examined during the year was 965, as compared with 1,096 in 1919. Except in the cases of cattle-poisoning the decrease was general. Opium was again the most prominent factor in human poisoning, followed by arsenic, mercury and alcohol, while in a few cases *bhang*, *datura* and strychnine were detected. In 35 detected cases of animal-poisoning arsenic was employed in 27, the remainder being divided between strychnine, mercuric chloride and *rati*. During the year 213 articles were examined for purity and quality.

20.—Criminal Justice.

General.

137. There was a slight drop in the number of offences reported, from 189,762 to 187,739, while the number of true cases was about 60 per cent. of the total number reported. The decrease, which is somewhat unexpected, is attributed to a tendency to refer disputes to *panchayats* for settlement; possibly the voluntary *chaukidara* and *thikripahra* systems obtaining respectively in towns and villages may have been contributing causes.

Cases brought to trial.

138. The number of cases brought to trial (those disposed of under sections 247 and 259 of the Criminal Procedure Code being excluded) was 110,197, involving 262,996 persons, as compared with 112,365 cases and 264,306 persons in the preceding year.

Disposal of cases.

139. The criminal cases disposed of during the year fell from 184,566 to 180,963, of which 93·4 per cent. were original cases. The number of persons involved in original cases decreased from 248,872 to 243,843. It is satisfactory to note that district magistrates disposed of 142 cases, against 90 in 1919, in virtue of enhanced powers under section 30 of the Criminal Procedure Code, but the High Court thinks that the time has come for trying the experiment of relieving district magistrates of all magisterial duties excepting those performed under the preventive sections of the Code.

Persons brought to trial and convicted under the Indian Penal Code.

140. Reported offences under the Indian Penal Code decreased from 131,791 to 130,185, while cases admitted to have occurred, including offences reported during and pending from the preceding year, fell from 79,218 to 77,028. Of 168,277 persons brought to trial under the Code only 12·62 per cent. were convicted, or nearly 2 per cent. less than in 1919. The police prosecuted 24,180 persons and obtained convictions in 54·3 per cent. of that number (8 per cent. less than in 1919), while the percentage of convictions of persons prosecuted on private complaints was only 5·6.

Serious forms of crime.

141. Of the 1,748 offences affecting life reported during the year and remaining pending from the previous year, 1,250 were brought to trial and 1,236 classified as true. Out of this total, 575 were cases of murder or dacoity and murder, 105 of attempted murder and 248 of culpable homicide. In paragraph 116 above, the police figure is shown as 550 (not 575), the explanation of the discrepancy being that the police classify true cases by reference to offences committed, while criminal courts do so by reference to individuals charged with the commission of an offence.

Murders.

142. The number of persons brought to trial for murder (sections 302 and 396, Indian Penal Code) was 1,330, of whom 443 were convicted. One hundred and sixty-two death sentences were passed, but

the number of persons affected was 158, because one convict was twice, and another thrice, sentenced to death in different cases. The High Court actually disposed of 143 persons sentenced to death, confirming the sentence in 60·8 per cent., commuting to transportation for life in 9·8 per cent., convicting of lesser offences in 3·5 per cent. and acquitting in 25·9 per cent. The corresponding percentages in 1919 were roughly 69, 8, 5 and 17. Two death sentences were passed by the High Court in virtue of its powers of enhancement of sentence. The Governor commuted the death sentence in four cases, three to transportation for life and one to ten years' imprisonment. The Governor-General in Council interfered in four other cases, reducing three sentences to transportation for life and one to imprisonment for seven years.

Matrimonial cases.

143. It is to be regretted that there has been a steady rise in the commission of matrimonial offences. In 1918 the number was 7,417, in 1919 it was 9,820, and last year the total reached 10,658, or a percentage increase of 43·7 in two years. It is noticeable that the application of the marriage registration system to some districts has failed to reduce this type of crime and the High Court emphasises the necessity for placing the system on a proper legal basis instead of leaving it to the idiosyncracies of local bodies.

Punishments.

144. The following table shows the punishments inflicted in 1919 and 1920:—

	Number of persons sentenced to				
	Death.	Transportation.	Imprisonment.	Fine.	Whipping.
1919	150	181	16,267	36,863	763
1920	87	235	14,344	34,279	664
Increase or decrease ...	—63	+54	—1,923	—2,584	—99

Habitual Offenders' Act.

145. Offences reported during the year under the Habitual Offenders' Act numbered 518. Out of 519 cases, involving 525 persons, movements were restricted in 460 cases, 432 persons being affected by the orders.

Miscellaneous.

146. Several proposals for minor reforms in the administration of criminal justice have come under notice during the year. One concerns the payment of witnesses and assessors by the sessions judge himself at the conclusion of criminal trials, in place of the present system under which disbursement is made by the district magistrate on the production of certificates issued by the sessions judge. Another relates to the practice, which already exists in one district, of the police giving notice to the magistrate that an investigation is nearing completion and that the *chalan* and prosecution witnesses will probably be presented on a particular day, so that the magistrate may arrange to hear the case as soon as it is brought before him. The High Court is now considering the advisability of extending this practice throughout the province. Finally, the Judges press for the abolition of the hybrid language which characterises the police diary.

21.—Prisons.

Institutions.

147. The Camp Jail at Dhariwal was finally closed on the 20th April 1920 and the inmates returned to the Lahore Borstal Institution. During the period of its existence, from February 1917 onwards, a sum of Rs. 93 thousand was credited to Government and ten thousand rupees to the private property accounts of the youths employed. The district jails at Jhelum, Mianwali, Rohtak and Jhang, which had been reduced to sub-jails owing to war emergencies, were re-opened. A fifth central jail is more than ever required to relieve overcrowding, especially in view of the recommendation made by the Indian Jails Committee that transportation prisoners should be returned from the Andamans. A site has been selected at Madhopur in the Gurdaspur district for the construction of an especially equipped jail for the treatment of prisoners suffering from tuberculosis. Including the accommodation provided for hospital, female, juvenile and civil prisoners, the total accommodation available is for 14,687 prisoners. This, however, is insufficient to relieve the congestion at present prevailing.

Daily average population.

148. The daily average population was 13,998 against 15,231 during 1919. The disturbances of 1919 were responsible for the great increase in that year.

Admissions.

149. The number of convicts received during the year amounted to 15,996 (against 19,236 in 1919) of whom 930 were received by transfer from other provinces, mostly from the North-West Frontier Province. Two hundred and fifty-eight prisoners were admitted into jail in default of payment of fine, out of whom 77 served the full sentence awarded in lieu of payment of fine. Deportations increased from 62 to 178 and executions fell from 162 to 80.

Releases by order of Government.

150. Fifteen prisoners were released by Government on medical grounds. On other grounds 773 prisoners were released, chiefly as the outcome of the Royal Proclamation in connection with Martial Law prisoners.

Juveniles and juvenile adults.

151. During the year 60 juveniles were convicted, of whom 24 were 15 years of age and, therefore, under the Reformatory Schools Act, were sent to jail. The name "Borstal Institution" has been substituted for "Borstal Jail" and "inmate" for "prisoner"; while an increase in the staff, both executive and technical, the introduction of special grades of three degrees for the inmates, which carry with them certain privileges, and the opening of a library for the use of the inmates are special features in the year's progress. Moreover, Government has ruled that detention in a Borstal Institution is not to debar a youth from Government service. The population of the Lahore Borstal Institution is over 1,400, a number far too large to be adequately dealt with in that institution. One hundred and eighty-two inmates were conditionally released as compared with three in 1919. A small compositors' section was opened and ambulance classes were continued. Land for a model agricultural farm has been acquired and is being levelled.

Unconvicted prisoners.

152. The number of under-trial prisoners received during 1920 was 22,851, giving a daily average of 1,820 against 27,306 admissions, with a daily average of 2,049 in the preceding year.

Escapes and imposition of fetters.

153. The number of escapes fell from 13 to 7. Only two prisoners escaped from inside a jail, all the others from outside gangs. The year shows an increase (526 against 477) in the imposition of fetters for safe custody.

Staff.

154. One assistant jailor was sent for trial on charges of bribery and corruption, for which he was convicted. The Jailor (now Officiating Superintendent) of the Borstal Institution, Sardar Sahib Bhai Hukam Singh, was granted the title of Sardar Bahadur in recognition of services rendered in connection with that institution. The pay of the staff and warder guard was increased.

Conduct and discipline.

155. The number of prison offences fell from 14,851 to 13,200. A serious riot occurred in the Lahore Central Jail during the year between Sikh and Punjabi prisoners on one hand and Pathans on the other, the outcome of friction of long standing between the various parties. A gang of 47 prisoners under transfer from Montgomery to Multan Central Jail caused trouble during transit from the Multan City Station to the jail and help had to be obtained from the jail. On arrival at the jail they were admitted within the main gates and were being searched, when one of the men struck the gate-keeper. A general *mêlée* ensued, which was with difficulty subdued. Offences relating to work decreased from 9,181 to 7,066 and those relating to prohibited articles fell from 1,915 to 1,641. The total number of punishments decreased from 14,885 to 13,235, though the number of whippings increased from 11 to 37.

Expenditure.

156. The expenditure on guarding and maintenance of prisoners increased from Rs. 17·14 lakhs to Rs. 18·27 lakhs and the cost per head from Rs. 113-9-6 to Rs. 132-3-11, the principal cause being high prices prevailing in the Punjab. An increase of expenditure under the head "Establishment" from Rs. 4·42 lakhs to Rs. 4·67 lakhs was due to the re-opening of four district jails and the grant of temporary allowances to the staff. Expenditure on buildings decreased from Rs. 1·42 lakhs to Rs. 1·38 lakhs.

Employment of prisoners.

157. The daily average number of convicts sentenced to labour fell from 12,860 to 11,858. Various Government departments, such as the Khewra salt depôt, agricultural farms at

Lyallpur and Gurdaspur, the arsenals at Ferozepore and Rawalpindi and the Woollen Mills at Dhariwal absorbed a certain amount of jail labour. Total cash profits increased from Rs. 4·02 lakhs to Rs. 4·21 lakhs. The chief increase in profits is ascribed to the disposal of large stocks of printed forms, the sale of castor oil, and the recoveries of large outstandings from the previous year. Cash earnings per head of those sentenced to labour increased from Rs. 31-4-0 to Rs. 35-8-0 and the gross profits from Rs. 2·61 lakhs to Rs. 3·69 lakhs.

Health.

158. Admissions to hospital fell from 14,876 to 10,401, the daily average number of sick being 461 and the number of deaths 211, as compared with 549 and 324; the corresponding figures of the preceding year. The death rate (15·25) is the smallest ever recorded in the Punjab Jail Department. The diseases of special importance during the year were dysentery, malarial fever, tuberculosis, pneumonia and diarrhœa. There has been a marked decrease in the incidence of dysentery in recent years, thanks to improvements in water supplies, sanitation and accuracy of diagnosis. Eighty-eight admissions and two deaths occurred from dysentery against 129 admissions and 3 deaths in 1919. The great reduction from 4,585 admissions and 18 deaths to 2,744 admissions and 12 deaths in malaria cases was due to the dryness of the year and to special measures taken to remove mosquito-breeding areas. The number of admissions for tuberculosis was 100 and of deaths 52, against 124 and 42 in 1919. Of the deaths 43 occurred at Shahpur Tubercular Jail. One hundred and ninety-two admissions (with 44 deaths) were attributed to pneumonia, against 249 admissions and 66 deaths in the previous year.

22.—Civil Justice.

Institutions.

159. The number of original civil suits instituted in all courts was 198,951, against 189,109 in the preceding year, an increase of 9,842, or 5·2 per cent. Money suits increased by 1,227.

General causes of increase.

160. The fluctuations in the numbers of suits instituted in previous years were due to the abnormal conditions of a period of war, and the present year's figure represents a return to normal conditions. It is noteworthy that the remote district

of Muzaffargarh has become the principal litigating district in the province. In Rohtak, Shahpur, Amritsar, Gujrat and Jhang the rise is attributed to good harvests, the prosperity of agriculturists and the demobilisation of soldiers who, on their return from active service, join eagerly in litigation.

Suits by bankers and shopkeepers.

161. The total number of suits for money or moveable property brought by bankers and shopkeepers against agriculturists increased from 70,325 to 72,243. Muzaffargarh, Dera Ghazi Khan, Kangra, Gurdaspur and Hissar show a very high proportion of this class of suit, while the small proportion found in Jullundur, Ludhiana and Amritsar may be accounted for by the possession of ready money in the hands of persons other than professional money-lenders, with consequent increase in their lending capacity. The Jat money-lender, for instance, appears to be gradually taking the place of the *sahukar* in small villages.

Suits for pre-emption.

162. The number of suits instituted to establish a right of pre-emption showed a very large advance, from 4,872 to 8,346, or about 71 per cent. As the result of a representation from the High Court against the right of pre-emption in urban and suburban areas, the right has been abolished in respect of certain lands adjoining Lahore, and the proposal to extend the process of abolition is under consideration. The increase elsewhere is attributed to the rising value of land and to the intervention of speculators who finance impecunious would-be pre-emptors.

Insolvency Act.

163. There was again a decrease in applications for a declaration of insolvency, from 1,188 to 893. The alterations introduced by the new Act (V of 1920) afford to debtors fewer chances for evading payment of their debts, and actually only 367 applications were allowed by the courts. A recent judgment of the High Court (I. L. R., Lahore, 192) has checked applications from agriculturist debtors who formerly considered that their land would be immune from attachment and from being farmed out. On the other hand, in consequence of the ruling referred to, some creditors are now applying to have their debts proved in old insolvency cases, as they hope to get the lands of their agriculturist debtors farmed out, and so recover some of their outstanding debts.

Value of suits.

164. The value of suits instituted rose from Rs. 490 lakhs to Rs. 596 lakhs, and their average value from Rs. 260 to Rs. 300. There were fifteen suits valued each at over one lakh of rupees.

Disposal and average duration of suits.

165. Out of 253,607 regular suits before the courts, 179,022 were disposed of, leaving a balance of 56,585, or 11,000 more than the balance of the preceding year. The average duration of contested suits was 92 days and of uncontested suits 51 days (each four more than in 1919). Munsifs disposed rather more rapidly of ordinary contested suits, while suits heard as small causes were completed with less expedition than in 1919. In order to reduce the pending file of munsifs, six additional appointments were sanctioned during the year.

Execution.

166. Fewer applications were presented for execution than in 1919, fewer were disposed of, and more remained pending at the close of the year. The amount realised, too, was less (Rs. 65¼ lakhs against Rs. 69·92 lakhs). The percentage of realisations was highest in Hoshiarpur and lowest in Sheikhupura.

Average duration of appeals.

167. The average duration of regular appeals rose from 127 days to 130, while that of miscellaneous appeals fell from 96 to 83 days.

High Court appeals.

168. A further increase has to be noticed in the average duration of first appeals in the High Court. These appeals, considerably in arrears in 1919, have fallen still further into arrears and a still heavier accumulation was expected, unless immediate steps were taken to remedy the situation. The criminal work of the High Court is exceptionally heavy, as may be readily understood from the fact that the file of murder references in one year is equal to those dealt with by the High Courts of Bengal, Bombay, Madras, and Bihar and Orissa put together. Two more Additional Judges have been appointed to cope with the accumulated burden of work.

Liquidation work.

169. Three companies were finally dissolved during the year and ten more were ready for dissolution at its close, while steady progress was made in winding up the remaining seven companies. Creditors of the Public Banking and Insurance Company, Limited, received 16 annas in the rupee and interest; those

of the Indian Exchange Bank, Limited, were paid 14 annas in the rupee, and those of the George Bank, Limited, 16 annas in the rupee, without interest.

23.—Registration.

General business.

170. In comparison with the preceding year the number of compulsorily registered instruments increased by 8 per cent. and their value 26 per cent. In the district reports different explanations of this increase are given. In Hoshiarpur poor harvests are alleged to have caused an increase in the number of alienations of agricultural land, while in Gurdaspur mortgaged lands were re-mortgaged in part on condition that the new mortgagee would discharge the whole of the previous mortgage debt. Many of those who enlisted in the army invested their savings in taking in mortgage lands of their poorer neighbours.

Immoveable property.

171. Optional registrations affecting immoveable property decreased by 16 per cent. in number but increased by 14 per cent. in aggregate value, owing to a rise in the value of land. There has of late been a steady fall both in the total number and in the aggregate value of such instruments of sale and mortgage. An increase in the aggregate value of other classes of instruments is accounted for by the fact that in Lahore a single lease of the value of Rs. 30,000 was registered and in Multan the aggregate value of 32 " other instruments " was above Rs. 1·65 lakhs.

Moveable property.

172. The variations in optional regis'rations affecting moveable property, namely, an increase of 8 per cent. in number and of 19 per cent. in aggregate value, call for no particular comment.

Land Alienation Act.

173. Very few deeds were presented for registration in which the provisions of the Punjab Alienation of Land Act were infringed and in all cases, except some in Gujrat, the fact of the infringement was detected before registration.

Income and Expenditure.

174. Owing to an increase in the total number and aggregate value of registrations, the income of the department rose from Rs. 5·23 lakhs to Rs. 5·92 lakhs, or 14 per cent. Expenditure also rose by 20 per cent. owing chiefly to the creation of one post of permanent sub-registrar, two of permanent

muharrirs and several of temporary additional muharrirs, and to the payment of war and temporary allowances. The net profit on the operations of the department was Rs. 3,85,189, as compared with Rs. 3,51,269 in the preceding year.

23-A.—Legal affairs of Government in the year 1920.

General.

175. The number of references for opinion disposed of by the Legal Remembrancer was 930, as compared with 918 in the year 1919 and 956 in 1918.

Original suits—cases in which Government was plaintiff.

176. The Secretary of State was plaintiff in 30 original suits during the year. Of these, 7 were decided in favour of and 1 against Government, whilst 22 remained pending at the close of the year. Of the 7 cases decided in favour of Government, 1 was for possession of land and 6 for recovery of money. The total amount involved was Rs. 85,804.

Original suits—cases in which Government was defendant.

177. The Secretary of State was defendant in 157 original actions, including land acquisition references. Of the 26 land acquisition cases, 18 were decided and 8 remained pending. The Collector's award was upheld in 9 of them. Of the other 131 civil suits, 27 were decided in favour of and 20 against Government; 5 were compromised and 2 withdrawn; 77 remained pending at the close of the year.

The total amount involved was on account of—

		Rs.
(*a*) Land acquisition references	...	8,84,220
(*b*) Other cases ...	...	3,80,409
Total	...	12,64,629

In class (*b*) above, the total amount claimed in decided cases was Rs. 93,575, out of which only the sum of Rs. 50,020 (including costs) was decreed against Government; whilst Rs. 5,936 was awarded to Government on account of costs in which the plaintiffs were unsuccessful.

Appeals.

178. The Secretary of State was appellant in two cases, one of which was decided against Government, and the other remained

pending at the close of the year, while out of the eight appeals in which Government was respondent none were brought to a decision.

Criminal Courts.

179. Government law officers appeared in the High Court in one original trial, which was decided in favour of Government. Of 982 criminal appeals in the High Court 767 went in favour of, and 215 against, the Crown. The Crown was also successful in 250 out of 328 applications for revision and unsuccessful in the remainder. There were 18 miscellaneous cases, of which 4 were decided in favour of, and 14 against, Government.

24.—District and Local Boards.

General.

180. Since the inauguration of the new electoral rules throughout the province, no constitutional changes have taken place, but the Ferozepore District Board has not so far, owing to delay in the elections, carried out its reconstitution in accordance with the new rules. In the Ambala district a demand for an extension of the franchise has been made in consequence of the imposition of a professional tax upon merchants, contractors and shopkeepers, the protest against the tax being based on the principle that there should be no taxation without representation. It is rumoured that a similar outcry will be raised against the status tax which is to be introduced in the Gurdaspur district.

Elections.

181. The reports of contests for elections show wide divergencies in the districts of Lahore and Gurgaon. In the former, there were 7 contests for 28 seats, a fact which seems to point to apathy on the part of the public. On the other hand, where contests actually took place, 37 per cent. of the electors voted, a percentage higher than that secured in the province in the general elections for the Council in 1920. In Gurgaon there were 7 contests for 34 seats, and only in 2 cases did the successful candidate carry more than 10 per cent. of the electorate with him. In respect of 10 electoral circles no nominations were received and the seats were filled by appointment. Indeed, election in Gurgaon is reported to be not only farcical, but actually unpopular ; the inhabitants do not appreciate democratic methods and dislike the formalities which are prescribed for elections. The result of

their attitude is displayed in the proportion of elected to nominated members, which is 6 to 34.

Working of the district boards.

182. It is indisputable that in many parts of the province there has been no quickening of interest in district board administration. Both the number of meetings and the percentage of attendance of non-official members in the Rawalpindi division show no increase; in Dera Ghazi Khan only one meeting, attended by two members, was held during the whole year, while in Amritsar the board met only six times in twelve months. The contention, therefore, that lack of interest and lack of communications go hand in hand does not hold good everywhere. One method of disposing of business, vigorously carried out in Lyallpur, Montgomery and Rohtak, has been to appoint sub-committees for finance, education, sanitation, etc., while tahsil sub-committees have done good work in Hissar, Jullundur and Ferozepore. Attock has devised another method which, however, it would not be wise to encourage except in the disposal of petty business,—namely, to entrust to members the annual repairs of primary schools and cattle-pounds, lump sums being placed at the disposal of such members, who subsequently render accounts for the expenditure incurred.

Finance.

183. The boards are at length beginning to realise that Government cannot indefinitely increase grants or give fresh grants for any new schemes that the boards may wish to carry out, and the introduction of the professional tax and the status (*haisiyat*) tax in certain districts is a hopeful sign for the future. In Jhang an application has been made for permission to raise the local rate above the maximum at present possible under the Act. There are some slight indications that boards will possibly in the future take larger views of their obligations and responsibilities and endeavour to meet them by more progressive methods of finance rather than by being content to ask for enhanced grants or to continue in time-worn grooves.

Income.

184. The gross income of district boards rose by Rs. 5 lakhs to Rs. 112·73 lakhs, but Government grants amounted to Rs. 12·79 more than in the preceding year, so that the true income of the boards has actually decreased by Rs. 7¾ lakhs. Local rates realised about Rs. 47,000 more than in the preceding year, and middle

school fees and private contributions towards medical relief increased by about Rs. 48,000 and Rs. 36,000 respectively. On the other hand, horse fairs, cattle fairs, private contributions for educational purposes, fees in primary schools, and hospital and dispensary receipts all show less income. The differences between districts in the incidence of taxation per head of population are astonishing ; in Hissar and Jhelum the incidence is Re. 0-2-1, closely followed by Mianwali with Re. 0-2-2 and Attock with Re. 0-2-3, while the Rohtak figure is Re. 1-3-0 and that of Sialkot Re. 0-15-5.

Expenditure.

185. Expenditure increased by Rs. 23·85 lakhs to Rs. 122·32 lakhs and thus exceeded income—including the Government grants—by nearly Rs. 10 lakhs. These figures speak for themselves and there is still reason to wonder whether local self-government is, without further training and guidance given to the boards, within the compass of their capabilities The maintenance of general establishments rose from Rs. 2·69 lakhs to Rs. 3·50 lakhs, the cost of education from Rs. 35·29 lakhs to Rs. 44·41 lakhs. Hospitals and dispensaries absorbed Rs. 7·37 lakhs, or more than a lakh above the previous year's figure, while expenditure on civil works generally increased by over Rs 12 lakhs to Rs. 51·61 lakhs.

Education.

186. The expenditure on education, as noticed above, amounts to Rs. 44·41 lakhs, or a little over one-third of the total income of the boards. In some districts of the Jullundur division this proportion is exceeded, the percentages showing Kangra (44·5), Hoshiarpur (48·6), Jullundur (49·2) and Ludhiana (47·5). Some fear is expressed that in Multan the present commitments on education are already beyond the board's resources and generally it may be said that endeavours are needed to consolidate the position already won before attempting an advance in the direction of opening new schools. There is too strong an inclination to open fresh schools without properly considering whether existing institutions are being adequately managed or are attended by all the scholars for whom they are intended. Rapid progress is, indeed, reported from Shahpur and Gujrat, in the former of which seven night schools have been opened for agriculturists. The interest taken in education is great in the majority of districts, but it is not always clear that efforts are well directed.

Civil Works.

187. There is a general complaint of insufficiency of funds for civil works, and expenditure rose from Rs. 39 to Rs. 51½ lakhs, very largely as a result of the rising prices of materials and labour. In consequence there are many proposals to re-transfer roads serving more than one district to provincial management. The most important of these is the Rawalpindi-Khushalgarh road, in Rawalpindi and Attock districts, which cannot be kept up as a metalled road by the boards concerned. It is a road of considerable military importance, and the proposal to re-transfer has already been laid before the Communications Board. Once more Lyallpur is to be congratulated on a successful year, the amount of work put through being certainly remarkable and including 66 educational works, among which are two primary schools, and two boarding houses, Rs. 23,367 spent on medical buildings, and Rs. 38,010 on metalled and unmetalled roads. The total amount spent by this board on civil works during the year under review is Rs. 2·03 lakhs, out of which Rs. 1·10 lakhs was spent on educational works alone. In Rohtak—the district with the largest mileage of metalled road in the province—and in Shahpur it is found that the use of motor lorries on the roads tends to make adequate maintenance an impossibility, and it is hoped that some means will be found for making heavy cars and motors running on hire contribute to board's funds. A suggestion of the Communications Board to adapt to this province sand-clay roads, laid after an American model, has been taken up by the Karnal district board. As a preliminary experiment a short stretch of road from Panipat to the River Jamna has been consolidated in this manner. It is too early to say whether the experiment will be a success, but other boards will no doubt watch results closely, and, if successful, adapt the new methods to their own use.

Arboriculture.

188. The best results from arboriculture were obtained in Ambala and Gurdaspur districts, where net profits of Rs 38,795 and Rs. 26,422 respectively accrued to the boards under this head. In Ambala the following operation has proved very successful. Some 200 mis-shapen, stunted or otherwise injured *shisham* and *siris* trees, under 3 feet in girth, were cut flush with the ground, with the result that vigorous, sound, and straight shoots have sprung up. This method seems to combine the advantages of felling and planting simul-

taneously and a knowledge of its apparent efficacy should not be confined to a single district. It is reported that the Arabian date plantations in Muzaffargarh are doing well, while in Shahpur the experiment in sericulture is stated to be successful and deserves the attention of boards in other colony districts.

Miscellaneous.

189. Notwithstanding adverse climatic conditions commendable keenness was displayed in the progress and extension of demonstration farms and agricultural schools, particularly at the farm at Bohar in the Rohtak district. On the other hand, cattle-breeding has, except in the Ambala division and in Lyallpur, shown little improvement, probably owing to the scarcity of fodder. Horse-breeding in Dera Ghazi Khan is reported to be languishing, and the Army Remount Department is turning its attention to more interesting fields further east. In the sphere of medical relief there is a general cry for more money and large sums are still required for improvements although a little over a lakh of rupees more was spent under this head in 1920-21 than in the preceding year and larger contributions were made from sources other than Government grants.

25.—Municipal Administration.

Elections.

190. During the year several elections were held in 30 municipalities, covering all divisions, with the single exception of Multan. In Ambala there was a very keen contest in which it is reported that much personal rancour was displayed. The same is true of the elections in the Rawalpindi division, where the Commissioner reports that there is no real public spirit, nor any reasoned appreciation of the value of the franchise. In Rawalpindi itself the elections were keenly contested, but stimulated not by any healthy issues of principle or policy, but by personal and sectarian feelings. From Dharmsala a keen and fairly fought contest is reported, but unfortunately these elections had subsequently to be declared invalid, as they had not been held on the date fixed. There was a hot fight at Jullundur, where most of the seats went to the Congress party, who had organised well. A vigorous election is also reported from Kasur, but this result was marred by an annulment on account of corrupt practices. The large number of unopposed returns in many

municipalities shows that much work remains to be done before the elective system can be valued at its true worth. Sometimes, communal rivalry has resulted in the withdrawal of candidates: at Pasrur the Hindus agreed amongst themselves not to stand, fearing that the increased interest shown by Muhammadans in the elections would bring about their defeat. The result was that Muhammadans were returned unopposed in a municipality formerly consisting of five Hindus and a single Musalman. In this connection a desire for the introduction of the communal system of election has been expressed in some quarters, and actually introduced in Jagraon and Raekot in the Jullundur division. In the majority of cities the electors are divided into wards, which are often made to correspond as far as possible with the quarters inhabited by the different communities But this system often involves contests between the communities, and thus there has arisen a demand that the Council system should be extended to all municipalities. The matter is under the consideration of Government.

Working of the committees.

191. All municipal committees held the prescribed number of meetings and the attendance of members is reported to have been generally satisfactory. As a rule the transaction of business has been best carried out where the committees contain men of good education, but Ambala forms an exception to the general rule, and the eastern portions of the province, where no large towns exist, are on the whole more backward than elsewhere in the conduct of municipal affairs. In the year 1920-21, the committees of Lahore and Amritsar took a keen interest in their duties, but towards the close of the year there were signs in the former committee of an inclination to sacrifice the proper performance of its functions to an ill-placed interest in political questions. Encouraging reports were received from all the districts of the Multan division, with the single exception of Dera Ghazi Khan, where there was a cleavage on religious lines, coupled with a tendency for discussion to assume a personal bias. The main defect in the discharge of business by committees and their sub-committees was the disregard of rules and regulations, of which the staffs were themselves ignorant. In Gujrat serious misappropriations came to light in the course of audit and prosecutions followed; a somewhat similar state of affairs was disclosed in Shahpur and Gujranwala.

Income and Expenditure.

192. The total income of municipalities increased from Rs. 114·30 lakhs to Rs. 131·99 lakhs, and total expenditure amounted to Rs. 130·95 lakhs. Establishment and the collection of taxes cost municipalities Rs. 6·67 lakhs, while expenditure on public instruction rose to Rs. 13½ lakhs.

Taxation.

193. The total receipts from taxation amounted to Rs. 67·77 lakhs, as compared with Rs. 59·58 lakhs in the preceding year, and the incidence of taxation per head of population rose to Rs. 4-2-9, though the incidence naturally varies enormously in different municipal areas. The movement towards the substitution of octroi by a terminal tax continues, and a number of important committees, including those of Lahore and Amritsar, are preparing for the change. Octroi realised altogether Rs. 55·76 lakhs, an increase of Rs. 2·79 lakhs over the figure for 1919-20, while the receipts from terminal tax rose by Rs. 1 lakh to Rs. 5¾ lakhs. It is still early to prophesy what future lies before the terminal tax, which has certain obvious defects, particularly where it is imposed only on rail-borne articles. A tax of this kind superseded octroi in Hoshiarpur with effect from September 1920, and the income is reported to be on the decrease because traders are evading the tax by booking merchandise to and from a station five miles distant on a metalled road.

Improvement schemes.

194. The Rewari water-works scheme was carried through during the year, but owing to certain defects the distribution of water in the town proved unsatisfactory and it is now proposed to transfer the control of the scheme to Government. The Multan municipality has three large schemes in hand, for the provision of drainage, water supply and electricity, and notwithstanding various disappointments proposes to proceed with its undertakings. In some cases committees have had to abandon drainage and water-works schemes owing to lack of funds. After considerable delay in the selection of a site the Rawalpindi committee is at length setting to work to have constructed a large male and female hospital, while the Mianwali Victory Memorial Hospital was actually opened in August 1920.

Miscellaneous.

195. Widespread fires occurred in Gujranwala and Murree, and there were as many as nine cases of fire in Kasur alone, where two ginning

factories and glass works were gutted. Epidemics of disease were confined mainly to the west of the province, plague breaking out at Multan and Hazro. The latter place, together with Sargodha and Murree, also suffered from small-pox, but the loss of life was not heavy and on the whole the year could be classed as a healthy one. Housing problems have, through lack of funds, not gone far towards solution, and little improvement is discernible in the collection of fees for medical relief. On the other hand, education is making a steady advance in most municipalities in the province.

26.—Military (Auxiliary Force).

General.

196. On the 1st October 1920 the Indian Defence Force was superseded by the Auxiliary Force. The one mounted and three infantry units of the Auxiliary Force in the province were the Punjab Light Horse, the Punjab Rifles, the Simla Rifles and the North-Western Railway Regiment.

Punjab Light Horse.

197. The headquarters of the Punjab Light Horse are at Lahore, with detachments at Rawalpindi and Amritsar. Delhi now has a contingent of its own, to which the former members of the Punjab Light Horse residing at Delhi have been transferred. The strength on 31st March 1921 was 174 and recruitment is proceeding. A light motor patrol has been constituted for men who possess motor cars.

Punjab Rifles.

198. The present strength of the battalion is 530, as compared with 756, all ranks, on 30th September 1920 under the Indian Defence Force.

Simla Rifles.

199. The Simla Rifles have been steadily increasing in numbers and now muster about 300 men, including 28 who have received training as Lewis gunners.

North-Western Railway Regiment.

200. The 1-24th and 2-24th battalions have now been constituted as the 1st and 2nd Battalions, North-Western Railway Regiment, under the Auxiliary Force Act, 1920. The strength of this regiment on 1st October 1921 was 1,159, all ranks. Six officers and men gained distinctions during the the year.

CHAPTER IV.

Production and Distribution.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Agriculture.—(1) Report on the Operations of the Department of Agriculture, Punjab, for the year ending 30th June 1921.

(2) Annual Report of the Punjab Veterinary College, Civil Veterinary Department, Punjab, and Government Cattle Farm, Hissar, for the year 1920-21.

(3) Report on the Land Revenue Administration of the Punjab for the Agricultural year ending 30th September 1920.

(4) Report on the working of Co-operative Societies for the year ending 31st July 1921.

Fisheries.—Report on the Department of Fisheries, Punjab, for the year ending 31st May 1921.

Weather and Crops.—(1) Report on the Weather of the Punjab for the year 1920-21.

(2) Punjab Season and Crops Report for 1920-21.

Horticulture.—Report on the Lawrence Gardens, Lahore, for the year 1920-21.

Forests.—(1) Progress Report on Forest Administration in the Punjab for 1920-21.

(2) Report on the Administration and Accounts of the District Boards in the Punjab for the year 1920-21.

(3) Land Revenue Report, as above.

Manufactures.—Report on the working of the Factories Act in the Punjab during the year 1920.

Trade.—(1) Report on the Internal Trade of the Punjab by rail and river for the year 1920-21.

(2) Report on the External Land Trade of the Punjab for the year 1920-21.

(3) Report on the Joint-Stock Companies in the Punjab for the year 1920-21.

Public Works.—Administration Report of the Public Works Department, Punjab, Buildings and Roads Branch, for the year 1920-21.

Irrigation.—(1) Administration Report of the Public Works Department, Punjab, Irrigation Branch, for the year 1920-21.

(2) Land Revenue Report, as above.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agriculture.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

Forests.—Statistical Abstracts for British India, Volume II, Financial Statistics.

Crops.—(1) Agricultural Statistics of India, Volume I, Tables II and III.

(2) Estimate of Area and Yield of certain principal crops in India.

(3) Prices and wages in India.

(4) Variations in Indian Price Levels.

Mines and Quarries.—(1) Statistical Abstracts for British India, Volume I, Commercial Statistics.

(2) Records of the Geological Survey of India, Volume XLVII, Part 3.

(3) Report of the Chief Inspector of Mines in India.

Manufactures.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

Trade.—(1) Inland Trade (Rail and River-borne) of India.

(2) Statistical Abstracts for British India, Volume I, Commercial Statistics.

Railways.—Administration Report on Railways in India for the year 1920-21.

Irrigation.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

27.—Agriculture.

SCIENTIFIC.

General.

201. With the inauguration of the Reforms Scheme in January 1921 Agriculture has become a "transferred" subject under the control of the Ministry of Agriculture. The department suffered from the loss of Mr. Roberts, Principal of the Agricultural

College, who has joined a private firm at Khanewal, and of Mr. Faulkner, Deputy Director of Agriculture, who obtained the appointment of Director of Agriculture in Nigeria. The pay of all officers of the department, except that of *mukaddams*, whose case is still under consideration, was revised and improved during the year.

The Lyallpur College.

202. The number of applications for admission continues to be far in excess of the number that can be admitted at the present time, and steps are being taken considerably to increase the capacity of the college. Six out of eleven candidates obtained the degree of B. Sc. in Agriculture, the failures being principally due to insufficient knowledge of chemistry. The rural economy class, which lasts for only one month and is intended merely to show something of what is being done by the department, was attended by 23 students, while the vernacular class, a six months' course, admitted 26 out of 76 applicants for entrance. Nine students left the college during the excitement caused by non-co-operation in November 1920 : of these three eventually rejoined. It is satisfactory to record that nothing untoward happened in the college as a result of the events at Nankana in February 1921.

Experiment and research—

(i) Botany.

203. Botanical research is in the Punjab naturally confined for the most part to wheat and cotton, which are the most important crops. In the case of the former, Mr. Milne's 8-A has in nearly all tests maintained its superiority over all the other varieties under trial, and there is now a considerable demand for this wheat among *zamindars* for sowing purposes. Work on the earcockle disease in wheat continues, and an illustrated pamphlet on the subject is being distributed in English, Urdu and Gurmukhi. In the experiments with cottons noted by the Economic Botanist 287-F has beaten 4-F. These two varieties have both been successful in Mesopotamia, where, however, the yields were extraordinarily high in 1918-19 but fell in 1920 owing to the lands becoming exhausted. Experimental work in date palms, imported from Mesopotamia, is proving successful in the district of Muzaffargarh.

(ii) Chemistry.

The experiments so far conducted have been designed mainly to ascertain what crops are the best suited for cultivation on *bara* land,

and they appear to indicate that sugarcane is the only crop that can be successfully grown. Satisfactory results have also been obtained in determining the effect of green manuring (*a*) in retaining moisture, and (*b*) on the yield of the following crop.

Sericulture.

204. Silk worm seed was distributed to the extent of 1,762 ounces, as against 600 in the preceding year and rearing has been started in eight new districts, while 359 new rearers have been trained. Unfortunately, owing to the unfavourable season, hatching was not satisfactory and the yield of cocoons very poor. Arrangements were made to distribute 3,000 ounces of eggs in 1921-22. It was decided to transfer the whole of sericulture to the Agricultural Department, the Department of Industries taking charge once the cocoon has been produced. A comprehensive scheme for the development of sericulture in the province is under the consideration of Government.

Entomology.

205. The most important item of research in this department was the enquiry into methods of protecting stored grain from weevils. Spraying experiments were continued against the *Citrus Psylla* and the mango-hopper. A travelling exhibition in entomology and sericulture was prepared, and during the year five different places were visited with a view to extending propaganda work and to spreading among the people a knowledge of the activities of the department. It is interesting to note that at Muktesar, in the Ferozepore district, more than 6,000 visitors came to the entomological camp.

Agricultural engineering.

206. Difficulties in transport and increase in the cost of material continued to affect the progress of work in the agricultural engineering section, but nevertheless 392 new bores were sunk, as against 360 in the preceding year. The tube wells at Jalalabad and Muzaffargarh have been completed and are working satisfactorily. A second post of agricultural engineer has recently been sanctioned and in future the exigencies of teaching will not prevent this section of the department from devoting more time to research, experimental and provincial work.

Experimental farms.

207. Experiments continue to be carried out at Lyallpur, Gurdaspur and Hansi farms. Full details are given in the Annual Experimental Record issued as Part II of the Annual Report.

DISTRICT WORK.

Implements.

208. Although sales have again been greatly affected by high prices, imported implements have found a ready market, the number sold in 1920-21 (excluding ploughshares) being more than double that of the previous year. The cheap Meston ploughs and the Raja fodder-cutters are particularly popular. Of country-made implements, bar harrows and drills, some of which are now sold through the Co-operative Department, are growing in favour at Lyallpur, where practical classes are held to train *zamindars* in the use of these implements. Much interest, too, has lately been evinced in tractors, different types of which have been purchased by a few large land-owners. These tractors are believed to have been found useful for the cultivation of unirrigated land, but their future in the province is by no means yet assured.

American cotton.

209. The limited success of American cotton in 1919 and 1920, particularly in the Lower Jhelum Colony in the latter year, combined with a great scarcity of fodder, has caused a larger area than usual to be placed under fodder crops, at the expense of cotton. Experience shows that American cotton generally needs better land, better water-supply and better cultivation than does country cotton, and that where those conditions are lacking it is wisest to sow *desi* cotton. Nearly all the American cotton planted is of the variety known as 4-F., and notwithstanding the comparative cheapness of cotton in the year reviewed it fetched a minimum premium of Rs. 2 per maund of unginned cotton over the country article. Assuming even a poor yield of five maunds an acre, the premium amounted to at least Rs. 10 an acre and was actually in many cases largely above that figure. Two thousand acres were sown with 285-F. cotton in canal colonies and the results of the experiment will be watched with interest.

Cotton auctions.

210. Twenty auctions were held at which 84,847 maunds of cotton were sold, the prices varying from Rs. 8-1-0 to Rs. 14-12-6, considerably lower than the prices obtained in the preceding year.

Wheat

211. The two wheats which now compete for favour are the old established Punjab-11 and the more recently selected 8-A. The former is particularly encouraged in canal colonies, but it is not unlikely

that 8-A will predominate at any rate in the eastern part of the province. There was a big increase in the acreage sown under Punjab-11, from 377,500 acres to 634,000 acres, the principal expansion occurring in the Lower Bari Doab Colony. 8-A is at present grown only by a few selected *zamindars* in the Lyallpur circle, while in the Gurdaspur and Hansi circles it was sown on only 1,200 acres and 4,000 acres respectively, Pusa-12 still being the favourite in that locality.

Seed depôts.

212. The figure given in last year's report of profits on the seed depôts was incorrect, the profits on wheat and cotton seed respectively being Rs. 344 and Rs. 20,451. The corresponding figures for 1920-21 are Rs. 3,228 and minus Rs. 186.

Demonstration work.

213. Demonstration work in the province is carried on in farms which may roughly be classified as Government farms, district board farms (some of which are aided by Government) and private farms. In the second category the district board farm at Sialkot deserves special mention for the satisfactory condition which it has reached in a short space of time. The opening of demonstration farms by the Co-operative Department and by private individuals is, however, the most interesting advance in this direction. At all these farms the varieties of seed recommended by the Agricultural Department are sown and approved cultural and manurial methods are practised.

MISCELLANEOUS.

Agricultural associations.

214. Agricultural associations continued to hold their usual half-yearly meetings. They exist in practically every district in which the department is working. It is satisfactory to note that meetings are better attended and that members generally take a more intelligent interest than used to be the case.

Wheat elevator.

215. The year was a most unfortunate one for the initial stages of such a venture. Owing to the complete and, latterly, partial embargo on the export of wheat, it was found impossible to export any elevator wheat overseas. Dealers, however, passed nearly 2,000 tons of wheat through the elevator : it was in the main purchased by mills in India and generally realised

from 3 to 4 annas a maund more than the best bazar wheat. Small samples, too, were sent to England and found a favourable reception.

Co-operative Societies.

General.

216. The severe scarcity and the fodder famine, combined with the disturbance of the money market, imposed a heavy strain upon the credit side of the co-operative movement during the year, and resulted in a slight retardation of the rate of progress. But the number of societies rose by 1,279 to 8,453 ; members increased in numbers by 33,882 to over 239,000 ; while the great efforts to raise funds to meet the insistent demands arising from the prevailing conditions resulted in an addition of Rs. 84 lakhs to the gross working capital. The organisation of credit societies had to be restricted because, owing to the stringency in the market, it was not possible to finance them ; but this side of the movement undoubtedly achieved great success in affording assistance to members, and in consequence attained further popularity To some extent, resort to money-lenders was unavoidable, but these were too greedy to take full advantage of their opportunity of posing as the real friend, and put up their rates with the result that the benefits of co-operative credit received fresh corroboration. Although the year witnessed a distinct increase of indebtedness, it is expected that the severe scarcity will in the end do good in bringing home the need for thrift and for a good reserve to meet similar occurrences. The true idea of co-operative effort is spreading and gains in popularity. The fact that nearly Rs. 83 lakhs were advanced as compared with Rs. 47 lakhs two years ago illustrates the progress made. Four years ago, the total sum advanced for all purposes was Rs. 30 lakhs ; this year as much was lent for fodder, seed and cattle alone. The insistent demand for more and ever more money was only met by equally insistent efforts to attract deposits ; primary societies succeeded in gaining over Rs. 7½ lakhs more than they paid out ; Unions added over Rs. 4 lakhs, and Central Banks collected more than Rs. 16 lakhs in excess of withdrawals. In a year when recoveries were of necessity small, this increase of working capital was more than satisfactory. In no case did the political agitation lead to withdrawal of deposits or to the liquidation of societies. On the other hand, the special circumstances of the year afforded unusual oppor-

tunities for the practical application of the co-operative method ; fodder, seed, etc., were distributed on a large scale, and at a price well below that demanded from those who had not joined the movement.

Secondary institutions.

217. The Punjab Co-operative Union continues to make steady though slow progress as the central body for the province. It is hampered by want of funds and an appeal to all societies to contribute 8 annas per member as a special aid did not yield much during the year owing to the prevailing stress. Four new central banks were started, the only one deserving of special mention being one for Christian societies. Amongst the older institutions, Lahore and Jullundur are making marked progress. Banking unions increased by 13 to 63, and were useful in attracting deposits that would not have reached the central banks. These unions are valuable training centres ; they serve to develop the co-operative spirit in the rural tracts to an extent which is impossible in the suspicious air of the towns. Taking both types together, they have increased their working capital from under 46 to over 100 lakhs in four years. Considering the youth of these institutions, their growth and their increasing financial stability augur well for the future. The construction of a sound system of rural credit for a province of the size of the Punjab should be reviewed by decades, not every year.

Agricultural societies.

218. The popularity of the agricultural credit society is now assured. Its success is beyond dispute. What is now required is money to finance and staff to teach and supervise. The rule of indivisible profits is being more generally adopted ; the importance of this rests in the fact that it results in the steady accumulation of a common fund in each village. In Jullundur District each society has on the average Rs. 2,400 owned capital, shares and reserve ; if every village in the province could tell the same tale, there would be several crores of savings available for the needs of the cultivators. Members are steadily being added, but the improvement in teaching and quality is more remarkable than the mere increase in numbers. Recoveries naturally declined in a year of severe scarcity, but the total of Rs. 54 lakhs was on the whole rather better than the circumstances of the time suggested as reasonable. The members now own over Rs. 127 lakhs of the capital, a sufficient

testimony to the essential financial soundness of the system. There are still large sums outstanding from unsatisfactory members, and little progress could be made in collecting these during the year. Two good harvests will remove these defects, as there is real inability to repay at present.

Liabilities and assets.

219. Over Rs. 18 lakhs were advanced for purchase of cattle, over Rs. 7 lakhs for fodder and nearly Rs. 4½ lakhs for seed. The considerable increase over last year's figure is, of course, due to the fodder famine and acute scarcity. For the repayment of old debt, over Rs. 14 lakhs were lent, making over Rs. 56 lakhs in the last five years. That the members are rapidly getting rid of their old liabilities is made clear from the examination of the working of societies which completed their tenth year in the period under review. In 246 such societies, unsecured debt to the extent of Rs. 6·3 lakhs, and secured debt to the extent of Rs. 4·5 lakhs have in the course of ten years been paid off. Two thousand eight hundred and fifty acres of land have been redeemed; 1,477 acres have been taken in mortgage for Rs. 3·7 lakhs, and 2,300 acres purchased for Rs. 6 lakhs. In addition the members have collected over Rs. 2 lakhs in shares and reserve. Thus while debt has decreased by Rs. 11 lakhs, assets have increased by Rs. 13 lakhs. Over 3,600 members of these societies have become free of debt. The special inquiry into the effects of co-operative effort made when the society becomes ten years old brings additional proof of the value of the movement to the people. The fact that about Rs. 178 lakhs are loaned out to members at a comparatively low rate of interest, and that out of the interest received about ten lakhs a year represent profit which is added to the reserve, needs no comment.

Cattle insurance.

220. Cattle insurance makes slow progress, but such a novelty will not grow popular in a day. The heavy cattle mortality and the forced sales of animals that could not be preserved led to a decline in the work of some societies; in seven, no premia were collected at all. The Re-insurance Union is working satisfactorily.

Special features.

221. Two features deserve special notice: last year there was started in Jhang the first co-operative mortgage bank in India; this institution has already advanced Rs. 73,000 of which

Rs. 58,890 was devoted to redeem 870 acres of land. The balance went to redeem *sajji* trees and old debts. In spite of the prevailing scarcity, the recoveries made were in excess of the instalments fixed. Further progress is limited by want of funds, for, although the security is ample and good, capital is shy. The other feature is the attempt to combat the evil of scattered holdings by the organisation of special Consolidation of Holding Societies; the success already attained is worthy of note. In 44 villages the work of re-partition was completed, possession exchanged and mutation in the revenue records sanctioned. In these villages, 1,613 members have consolidated 6,350 acres; the number of fields has been reduced from 10,783 to 2,044. Work is being carried on in about 40 other villages. Much patience is required, while tactful explanation is essential. The benefits are admitted readily, but there is a perfectly natural disinclination to part with the ancestral acres. How necessary the work is will be understood from the fact that, in Jullundur District, there are at least eight villages, owned by 2,449 persons, whose 12,800 acres are divided into 63,000 fields, the average size being under one-quarter of an acre; in one village, the average size of its 16,000 fields is one-eighth of an acre. Similar figures could be supplied from other districts of the central Punjab. A special staff is now engaged upon this work, and it is hoped that progress will be continuous and steady.

Arbitration societies.

222. Another interesting experiment is the attempt to organise public opinion against litigation by the formation of arbitration societies At the close of the year, there were 87 societies with 10,299 members, and a number of disputes had been decided. The idea is proving popular.

Miscellaneous.

223. In order to tackle the difficult problem of illiteracy and ignorance which restricts co-operative work, about 10[illegible] night schools have been started in which reading and writing are taught to adult members. The expenses are borne by the members or by the local credit society. The 1,783 students are said to be regular in their attendance and are reported to be making satisfactory progress. Much more could be done if there were teachers available for the would-be pupils; efforts are being made to start such schools wherever

local circumstances permit ; the benefit to the movement and to its members should be very great indeed if these institutions can be spread throughout the province. Other forms of co-operative activity include silt clearance on inundation canals, land reclamation, cattle and sheep breeding, mare insurance, thrift and saving, and seed and demonstration farms. It is too early yet to pronounce any opinion on the prospects of these new farms, but the persistent teaching of the highly trained staff is undoubtedly producing a good effect. Especially is this the case in stimulating agricultural improvements ; a considerable number of implements and large quantities of seed are being supplied, and the planting of fruit trees is being steadily encouraged.

Non-agricultural societies.

224. As a result of the attention paid in recent years there are now 303 non-agricultural societies, with 15,371 members. Of these 79 are industrial, weavers' societies heading the list with 57. The credit societies are making satisfactory progress ; the large institutions of the North-Western Railway and of the Telegraph Department are on the whole well managed although their control is not as co-operative as could be wished. Societies for supply in the towns are not doing well owing to the lack of public-spirited men to look after them. The urban resident is prepared to buy cheap food, etc., if procured for him, but he shows little inclination to make any effort in his own behalf. The weavers' societies improved markedly in the last few years, under the careful supervision of the Deputy Registrar. They have now started five night schools of their own with 79 pupils, all adult weavers. Many members are joining the Government weaving schools and the improved fly shuttle loom and warping creel are winning popularity. The Central Weavers' Stores is becoming an important concern. Its working capital is now Rs. 1·32 lakhs; it sold material of about this value to members and disposed of over a lakh of rupees worth of their products. Although there is a vast amount of constructive work still to be done, it is encouraging to find that the weavers' own capital in their societies is now Rs. 47,500. Unfortunately there is great difficulty in finding a market for their manufactured products. The eight societies of calico-printers continue to do well.

225. The standard of work throughout the movement continues to show steady improvement; indeed, the most hopeful feature is the growth of a wider knowledge and a better appreciation of what co-operation means and stands for. The province now possesses a large number of really good societies, whose members understand the essential principles and are developing a true co-operative spirit. That the test is carefully applied is clear from the fact that the proportion of societies in the two upper classes increased only by one per cent. during the year; but in numbers there was a more marked increase. The expulsion of bad members and the liquidation of hopeless societies proceeds steadily and has good results. On the whole there is a very large number of members of committees who may now be said to be devoting themselves unselfishly to the public good.

Quality.

226. Although the movement is now assuming its place as a permanent feature in the economic development of the province, its advance is retarded by the lack of public-spirited helpers; there are practically no contributions to the expenses of organisation and propaganda; each society pays a fee to the audit fund, but the income is insufficient to meet the growing expenditure. Government is willing to pay for a larger supervising staff, as the number of societies increases, but it cannot be expected to undertake responsibility for the whole cost of a movement which is supposed to be founded upon self-help. Moreover, the funds required to finance the members must be found by the societies, and progress in this direction measures the progress in the movement as a whole. For Government to guarantee to provide the necessary funds would be to deprive all concerned of the incentive to bestir themselves in their own interests; it is right that those who desire to organise themselves into new societies should experience the need for self-help as a precedent to enjoying the advantages of mutual help. The sum required to finance agricultural operations in the province cannot be less than thirty crores; and the accumulation of this sum is not the work of a few years. On the whole progress in the Punjab compares well with the growth of the movement in other provinces of India, and in countries outside. All indications point to a rapid advance when the present period of scarcity passes away.

Success of the movement.

VETERINARY AND LIVE-STOCK.

Cattle disease and mortality.

227. The striking decrease in mortality among cattle generally (25,200 deaths as compared with 56,089 in the previous year) was due to the dry season, but the percentage of mortality to cases treated was relatively high owing to the poor condition of the animals attacked by disease. Amongst equines no cases of glanders, anthrax or dourine were reported and the number of deaths from surra fell from 65 to 37. The most serious losses from rinderpest among bovines occurred in the Multan, Muzaffargarh and Lahore Districts, but the total number of deaths was only just over a third of the previous year's figure. Thanks to the persistent propaganda work of the department, public feeling is steadily overcoming old prejudices and anti-rinderpest inoculations are increasing in popularity. There was a very large diminution in deaths (201 against 2,592) from foot-and-mouth disease and a drop of thirty per cent. in casualties from hæmorrhagic septicæmia ; in the prevention of the latter disease vigorous measures of inoculation and vaccination were undertaken.

Veterinary College.

228. Eighty students were admitted to the College for the three years' course, against 81 in the previous year; out of these 39 belong to the Punjab. The results of the annual examinations were very satisfactory, the percentage of passes in each of the three years being over 80. Owing to the deputation of some of the officers attached to the College for training elsewhere, no post-graduate classes could be held, and with the impending introduction of a four years' course in English it is proposed to institute a post diploma course, by which students, who have obtained their diplomas under the old system, will attend lectures on additional subjects in the third and fourth years under the new system, thus qualifying themselves for higher posts that may fall vacant. The question of raising the value of many of the existing scholarships in the College is under consideration. The number of patients was practically the same as in the previous year, and that of out-patients slightly smaller. Thirty-one dogs were subjected to anti-rabic treatment. The income during the year rose from Rs. 20,612 to Rs. 21,567, while expenditure increased, owing to enhancements of pay and to the high price of requisites from Rs. 1·34 lakhs to Rs. 1·41 lakhs.

Veterinary hospitals.

229. Eight new hospitals were opened during the year, and there are now in the province 139 hospitals and 5 dispensaries. The addition of these hospitals, with more to follow in the near future, is a proof of the steady growth of appreciation of the department's work on the part of the Punjabi peasant, and it is interesting to note that the Lyallpur District Muslim Zamindars' Association recently passed a resolution requesting that a veterinary hospital should be opened in each *zail* of the district. District boards, too, have promised to supplement Government grants from their own resources, so that, with the aid of private contributions obtained from local subscribers, it should be possible to proceed more energetically with the work of constructing new veterinary hospitals and of improving those which already exist.

Cattle-breeding.

230. With 261 additions and 173 casualties the total of stud bulls advanced from 1,252 to 1,440. A record number (239) of Hissar bulls was issued to districts from the Hissar farm, notwithstanding the severe shortage of fodder which made it necessary for certain district boards considerably to curtail their indents. The serious decrease in the number of cattle in the province has caused a revival of interest in cattle-breeding, but efforts have been hampered through want of funds. Attention is being directed to the gradual disappearance of the valuable Montgomery milch breed of cattle, and also to the necessity for closer co-ordination of interests between the military dairies and the cattle-breeders in dealing with this breed, which is largely sought after for milking purposes.

Government Cattle Farm, Hissar.

231. The farm had a distinctly unfortunate year, shortage of rain being accompanied by severe outbreaks of disease, a most unusual combination. Nevertheless, demand for farm stock continued keen, and total receipts amounted to the record sum of Rs. 2·02 lakhs. The highest price realised for a pair of bullocks was Rs. 650. The period of acute fodder famine began in November; stock generally at that time were in good condition, owing to the fact that the little rainfall was concentrated into a period between the 25th of July and the 4th of August. These few wet days were sufficient to cause a growth of short grass and stock had grazing for about seven weeks.

CAMEL SPECIALIST, &C.

232. An increase of staff was sanctioned during the year and an assistant from the Pathological Entomologist's office at Pusa was deputed to the Punjab in order to assist in surra transmission experiments and other entomological work. Of the various methods of intravenous injection of tartar emetic into camels, two gave a percentage of cures of over 70, and this simple and inexpensive treatment will be further investigated. Ninety experiments were carried out with different species of tabanidæ to ascertain (*i*) the transmitting agent of surra, and (*ii*) whether surra is spread by direct transmission or whether there is a cyclical development in the transmitting agent; but it has not yet been possible to reach any definite conclusions. In the treatment of mange the best results have been obtained by the application of *taramira* oil. An examination of a large number of goats showed the wide prevalence of hypoderma larvæ, which damage the hides and cause a great depreciation in their value. Reports on this subject as well as on the spirochæotis of fowls, which can be cured in the early stages of the disease by injections of soamin, have been published as bulletins of the Department of Agriculture.

27-A.—Fisheries.

Regulations.

233. The Fisheries regulations are now in force in Kangra, Gurdaspur, Jullundur, Hoshiarpur, Amritsar, Ludhiana, Ambala and Ferozepore, while draft regulations have been submitted to Government for the districts of Lahore, Sheikhupura and Montgomery. Propaganda work to explain the objects of the regulations was continued by the officers of the department, and a pamphlet explaining the aims and objects of the department was distributed through the Punjab Publicity Committee. The regulations in the States of Mandi, Suket, and Kapurthala are working satisfactorily.

General.

234. On account of continuous drought the rivers became very low in the winter, and the catches of the fishermen in the late winter and spring were rather below average. A second fish-ladder was constructed at the Rupar weir. Rewards have been sanctioned for the destruction of fish enemies (cormorants, otters and crocodiles, etc.) Some murral have spawned at Madhopur and the fry are being kept for stocking purposes. Efforts

to eradicate the weeds out of the Sirkian tank have so far not been successful. The Warden has been deputed to locate the spawning grounds of carp and to make observations of the life history of the species in natural breeding-grounds.

Culture.

235. Trout culture in Kulu is progressing satisfactorily, and the yield of ova and fry exceeded that of the previous years. It has been reported by some experienced anglers that Kulu trout take fly as readily as any trout provided the flies are of the right kind and size. Trout ova were planted in the Kangra and Chamba streams again this year.

Staff.

236. Out of the six sub-inspectors sanctioned for the plains districts four were appointed; the remaining two will be appointed as soon as rules for Lahore, Sheikhupura and Montgomery are issued. The expenditure of the department was Rs. 31,439 against an income of Rs. 32,300.

28.—Weather and Crops.

Character of the season.

237. Except near the hills and in a few of the central districts rainfall was scanty in January. It was also deficient in February and March except in montane and sub-montane districts, while April was practically dry everywhere. Thus the season was not as favourable as in the preceding year for the sowing of cane and cotton. In May, rainfall was generally above normal, and both cane and cotton were considerably benefited. In the case of the latter further sowings were also effected. The monsoon set in at the end of the third week of June, and gave a fair amount of rain in parts of the south-east Punjab and in some montane and sub-montane districts, but elsewhere there was only light rain or none at all. It was very weak in July and August when it practically failed to penetrate the south-western districts, the total rainfall of these months being below normal nearly throughout the province. In September also, rainfall was in defect almost everywhere, autumn crops in consequence being sown under unfavourable conditions. October, November and December were rainless, with the result that autumn crops were considerably damaged and only a comparatively small area could be sown with spring crops. Light rain, however, fell in small areas in the second and third weeks of January and the beginning

of February. This was useful as far as it went, but was late and entirely insufficient, especially for unirrigated crops. No rain fell during the remainder of February and the whole of March, so that spring crops, especially unirrigated, were severely damaged. In the latter month, some damage was also done by high and hot winds. Except for some light and scattered showers, April remained dry and harvesting operations were in consequence not appreciably interfered with. Rivers were running low and in canals the supply was short particularly in the Lower Bari Doab Canal. Canal closures were also more frequent and prolonged than usual. In Mianwali the Kurram Canal worked well, but in the Namal Canal the supply was much restricted. In Multan the inundation canals opened later and closed earlier than usual, and the same was the case in the Muzaffargarh District except as regards the Maghasan Canal in the Sinawan Tahsil. In Dera Ghazi Khan the inundation canals began to flow in May, and their supply continued full and steady up to August when it practically ceased. The hill torrents of this district flowed only in June and July.

Sown and matured areas.

238. The sown area decreased by 16 per cent. as compared with the preceding year and by 15 per cent. as compared with normal. The matured area decreased by 32 per cent. as compared with the former and by 29 per cent. as compared with the latter. The percentage of the total area sown on the normal area varied in different districts from 59 to 116. It was remarkably low in Hissar (62), Rohtak (75), Gurgaon (72), Karnal (75), Jhelum and Attock (59) and remarkably high in Gujranwala (104), Sheikhupura (105) and Montgomery (116).

Irrigated area.

239. Irrigated sowings increased from 45 per cent. of the total in 1919-20 to 54 per cent. in the year under report. As compared with the preceding year there was a considerable increase in the area irrigated from wells and a substantial decrease in the area irrigated from Government and private canals, tanks and other sources. Of the total irrigated area 64 per cent. was watered from Government canals and the rest from private canals and other sources.

Outturn of chief crops.

240. *Wheat.*—The total area sown declined from 8,812,803 acres to 7,751,103 acres, or 12 per cent. below the preceding year and

16 per cent. below normal. The decrease was confined to unirrigated area, irrigated area showing an increase of 2 per cent. as compared with the preceding year. The yield was adversely affected by bad monsoon, the failure of the winter rains and the hot winds of March. The percentages of the estimated actual outturn per acre on the normal varied from 35 to 100 on irrigated, and from 25 to 85 on unirrigated area. The total outturn (taking into account the revised figures of area reported from some of the districts after the submission of the final forecast) was 2,030,643 tons, or 27 per cent. below normal, Gujranwala and Sheikhupura being the only districts above the average.

The total outturn of the other principal crops, as compared with the estimated normal outturn, is given below :—

Name of crop.	*Outturn in percentage on estimated normal.*
Rice	98
Barley	34
Jowar	110
Bajra	68
Maize	90
Gram	40
Rabi oilseeds	58
Sugarcane	96
Cotton	165

Prices, trade and food-stock.

241. Owing to the failure of the monsoon and winter rains and the consequent unsatisfactory outturn of both the *kharif* and *rabi* harvests, the prices of all the principal crops, except rapeseed and cotton, were higher in the year under report than in the preceding year. The most remarkable increases occurred in the average prices of wheat, barley, gram and raw sugar, which respectively rose from Rs. 4-15-0, Rs. 3-11-0, Rs. 4-13-0 and Rs. 7-9-0 per maund to Rs 6-10-0, Rs. 4-15-0, Rs. 6-5-0 and Rs. 9-1-0 per maund. The average price of rapeseed fell from Rs. 9-9-0 to Rs. 9-7-0 and of cotton from Rs. 13-5-0 to Rs. 8-7-0 per maund. As compared with the preceding year there was an increase in the exports of wheat, gram and rice and a decrease in the exports of *jowar*, *bajra* and cotton, while less sugar was imported. Stocks of food-grains were reported to be generally insufficient. In some districts it is said that stocks were held up to keep prices high.

29.—Horticulture.

Lawrence Gardens, Lahore.

242. Climatic conditions were generally unfavourable and caused the loss of a number of young fruit trees under process of grafting. For the same reason exhibits at the annual chrysanthemum and spring shows were comparatively few in number and not of the highest qualities, but notwithstanding the inclemency of the weather the general appearance of the Gardens did not suffer. Amongst improvements carried out during the year mention should be made of the erection of the new Victoria Gate, opposite the Charing Cross post office, and of the filling up of the insanitary pond near the hockey ground. Larger quantities than usual of chrysanthemums were supplied to Bikaner State. Aggregate receipts amounted to Rs. 44,617 and expenditure to Rs. 41,683, the credit balance in hand at the close of the year being Rs. 2,934. The arboriculture classes were attended by 33 students.

30.—Forests.

Alterations in area.

243. The area controlled by the Forest Department was reduced by 188 square miles to 6,626 square miles. One hundred and seventeen square miles were disforested for colonisation in the Multan and Chenab Forest Divisions. The classification of the forests is now as follows :—

	Square miles.
Reserved	1,701
Protected	4,036
Unclassed	530
Leased	359
Total ...	6,626

Forest settlements.

244. No new settlements were actually completed during the period covered by this report, but that of the Daphar Plantation was nearing completion, and has since been completed, while the Sutlej Valley Settlement, Bashahr Forest Division, has been sent to the press. The latter, however, does not include the high level pine and fir forests, the work having been postponed until more staff becomes available.

Working plans.

245. The alterations necessary in the Kangra working plan could not be completed before the close of the year. A beginning has been made with the Kalesar working plan in the Simla Division. The browsing schemes for the 52nd and 53rd Silladar Camel Corps were brought into force during the year, but that for the 54th Silladar Camel Corps is still under consideration.

Protection.

246. The total number of offences reported was less than in the previous year by 842 and less than the average of the last three years by 956. The decrease, however, is fictitious owing to the fact that the report covers a period of only nine months. The total area of forest burnt was 14,215 acres. The divisions which suffered most from fires were Kulu, Multan, Bashahr and Lahore. In the two first-named most of the area was burnt through intentional firing. The area open to all grazing decreased from 5,432 square miles to 5,240 square miles owing to disforestation of areas for colonisation in the Multan Division. Drought was the predominating cause of injury to forest crops throughout the province, damage by snow in the high hill forests being slight.

Natural and artificial reproduction.

247. Existing reproduction has suffered generally from the unusual drought. Kulu reports damage to the deodar regeneration which followed the seed year of 1918, while younger seedlings were killed in large quantities. In Rawalpindi, *chir* seedlings under three years old are reported to have been destroyed, and the production of new bamboo shoots in the Hoshiarpur Division was on the whole abnormally poor. Kail regeneration in Bashahr is very satisfactory and that of silver fir in Kulu, wherever a clean seed bed was obtained, is excellent. It is also good in Chota Banghal. The reproduction of deodar seed was very variable, parts of Kulu and Dharmsala having a fair crop. *Chir* seed was generally deficient. The total area sown up to the end of the year in irrigated plantations was 7,441 acres as compared with 7,094 acres at its beginning. The quantity of water received was generally deficient, though up to the end of the period under report sowings were generally successful. The total expenditure incurred on, and revenue derived from, the five newer plantations have been Rs. 3·44 lakhs and Rs. 8·15 lakhs respectively.

Exploitations.

248. The outturn of all classes of produce compares as follows with the average of the three preceding years. The comparison is, however, not quite accurate, because the figures for the year under report are actually for nine months only :—

	Timber.	Firewood.	Minor Produce.
	Thousands of cubic feet.	Thousands of cubic feet (stacked).	Value in lakhs.
1920-21	2,578	2,584	20·45
Average 1917-18 to 1919-20.	1,646	2,245	13·86

The extraction of all valuable timber is now being carried out departmentally and only small trees, the result of thinnings in remote localities in the plains rakhs, are sold standing and converted by purchasers. The quantity of timber extracted will undoubtedly increase steadily with the introduction of more intense systems of management under revised working plans and with improved methods of extraction. 35,541 maunds of resin were collected as compared with 38,427 maunds last year. In addition 3,544 maunds of resin were purchased from Kashmir and Hazara. 26,782 maunds of resin were distilled, against 35,656 last year. The total quantity of turpentine obtained from primary distillation was 54,219 gallons. The proportion of quality 1 turpentine obtained on re-distillation increased from 1·49 to 1·56 gallons per maund of resin, a result due to the application of laboratory control tests throughout the year, whereby standard turpentine is produced. The average price obtained for resin was Rs. 17-8-0 per maund as compared with Rs. 17-4-0 last year and that for turpentine Rs. 5-12-0 per gallon as compared with Rs. 5-11-0. At the close of the year, however, there was a very marked fall in prices.

Miscellaneous.

249. The scheme of reorganisation of the Forest Department of the Punjab, which provided for the additional posts of Chief Conservator and a Utilization Conservator, was sanctioned at the close of the year and the posts were created with effect from

11th March and 23rd February 1921, respectively. The formation of a separate afforestation division of the Pabbi Range of the Chenab Forest Division is under the consideration of the Local Government.

Timber works and labour.

250. Owing to scarcity of food in the hills labour supplies have been better than usual during the year. Thus the output of Kulu Division is roughly three times the average quantity extracted before the introduction of departmental working; and the Bashahr output has increased from 24,000 cubic feet last year to 60,000 cubic feet in the period under report. Large advances have still to be given to induce men to come on to the work, with the result that the Forest Department is still largely at the mercy of its labour force. It is hoped that it will be possible to arrange for a timber traders' association to protect employers of forest labour from the dishonesty of contractors who have no compunction in taking a fresh advance from a second trader before they have finished with the first The extraction of timber from Kulu and Bashahr begun last year is now being satisfactorily organised.

Rates and prices.

251. Timber prices reached a high level during the winter of 1920, and then slumped badly towards spring in sympathy with the prevailing general trade depression.

Mechanical means of transport.

252. A tramway is under construction in Changa Manga and some three miles were completed by the end of the year. The construction of the Simla-Narkanda ropeway is still under consideration. The so-called Donald's ropeways with fittings completed and remodelled by Major Chipp are proving extremely profitable. Eleven such ropeways have now been obtained and eighteen more are on order.

The Oleo-resin industry.

253. The period under report was characterised by considerable progress in standardisation of the Jallo resin and turpentine, and the high quality of these products has not only been maintained but improved Jallo products are now well established on the Indian markets.

Financial results.

254. The financial results are given in section 43; the year's working shows a surplus of Rs. 18·56 lakhs and a cash surplus of Rs. 2·35 lakhs,

against Rs. 14·30 lakhs last year and against an average of Rs. 9·09 lakhs for the preceding five years.

31.—Mines and Quarries.

Mines.

255. The total number of collieries and other mines coming under the Mines Act worked during the year under report was 30. Of these 4 are Government salt mines, 15 collieries (12 in Jhelum, 2 in Mianwali and one in Shahpur) and 11 are slate, lime and stone mines (3 in Gurgaon, 2 in Gurdaspur, 5 in Kangra and 1 in Hoshiarpur). The Kathlug slate quarry, Dalhousie, was not worked at all throughout the year. The mining lease case of Lala Ishar Das in respect of 182·45 acres of land in Rakh Dandot for coal is still pending on account of a report from the Salt Department, as a part of this area coincides with the area reserved for the Khewra water-supply.

256. The total amount of mineral raised and its value as compared with 1917, 1918 and 1919 are as follows :—

	Mineral, in tons.				Value, in rupees.			
	1917.	1918.	1919.	1920.	1917.	1918.	1919.	1920.
Coal ...	49,868	46,567	39,894	58,077	3,76,192	5,70,281	3,62,166	7,10,743
Salt ...	152,360	158,512	174,974	181,092	3,88,809	4,04,539	4,60,575	6,16,217
Slate, stone and lime-stone.	8,860	8,482	9,076	17,359	1,07,013	1,31,370	1,38,256	1,24,396
Potash ...	181	134	83	50	928	687	421	253

Except in the case of potash there has been an increase in the output of every mineral as compared with 1919. The health of the operatives has generally been good and sanitation sufficient. At the Warcha Salt Mine, however, small-pox broke out during the months of January to March 1920 and accounted for some deaths. Wages have increased considerably and there has been a great dearth of labour. The rise in wages is in consonance with the increase in the cost of living.

Other minerals.

257. Minerals which do not come under the Mines Act are :—Gold (by washing), petroleum, alum shale, block kankar, lime-stone, gypsum, antimony, building-stone, and stone of sorts. The outturn and value of these minerals during the year were as follows :—

District.	Name of mineral worked.	Total amount of mineral raised.	Total value of mineral at the mine.
			Rs.
Ambala ...	Gold (by washing) ...	5 29/160 oz.	349
Jhelum ...	Ditto ...	140 tolas	3,925
Attock ...	Petroleum ...	50,640 gallons	9,495
Mianwali ...	Ditto ...	852 „	213
Jhelum ...	Lime-stone ...	26,756 tons	62,432
Do. ...	Gypsum ...	7,378 „	17,218
Do. ...	Antimony ...	10 seers	400
Ambala ...	Block kankar ...	476 tons	533
Mianwali ...	Alum shale ...	6,851 „	10,200
Simla ..	Building-stone ...	234,400 c. ft.	2,344
Jhelum ...	Stone of sorts ...	1,203,177 c. ft.	48,069

32.—Industries and Manufactures.

General.

258. The Department of Industries, now under the control of the Ministry of Agriculture, has made a promising start since its inauguration in the year preceding that now under report, notwithstanding the unfavourable circumstances of an uncertain exchange, restricted railway facilities and shortage of coal supply. The appointment of six industrial surveyors to travel constantly through the province and keep the Director in touch with local industries was sanctioned as a tentative measure during the year. Only a small amount of chemical research work was possible, and the future of this branch of the department's activities will depend upon the decision of the Government of India regarding the formation of a chemical service for the whole of India. At present the department employs a mechanical engineer, a tanning

superintendent and a dyeing research assistant, whose services are obtainable in cases approved by the Director. Rupees 3·7 lakhs were budgetted for the year and most of that amount was spent.

Institutions.

259. Among existing institutions Government has under consideration the improvement of the Central Museum and Mayo School of Arts at Lahore. Five weaving schools have been opened—a central school at Amritsar and four others in Multan, Sialkot, Jalalpur Jattan and Sham Churasi—and instruction in these schools has been put on a scientific basis. The district advisory boards have worked well and the establishment of a central advisory board is being considered.

Factories.

260. The total number of factories registered under the Factories Act increased from 247 to 285, new factories including one woollen mill, two ice factories, twelve cotton-ginning factories, nine baling presses, a glass works, an oil mill and an aeroplan workshop. The average number of persons employed rose from about 39,000 to 42,500. Considerable labour unrest was evident, especially in large centres : the employees in almost all the railway workshops went on strike for over two months, and a strike also took place in the Bhiwani Spinning Mills

The Factories Act.

261. The administration of the Act suffered owing to the untimely death of Mr. Taffs, the late Inspector of Factories. While water-supply and sanitary conditions were generally satisfactory, ventilation in cotton-ginning factories was often insufficient. The health of operatives was good and no epidemics occurred during the year. There were 239 accidents (as compared with 241 in the previous year), of which 14 were fatal and 23 classed as serious.

33.—Trade.

Rail and River-borne Trade.

Net Imports. (a) Increases.

262. There were marked increases in both the volume and value of some articles. The net imports of coal and coke, for purposes not connected with railways, advanced by 19¼ lakhs of maunds in weight and Rs. 61¼ lakhs in value, owing to the increased requirements of the cotton ginning

and pressing factories. Indian piece-goods increased by 4 lakhs of maunds in weight and Rs. 643 lakhs in value, owing to the *swadeshi* movement. Cotton seeds increased by 22 lakhs of maunds in weight and Rs. 64¼ lakhs in value, owing to fodder scarcity. The net imports of bars, sheets, girders, etc., increased by 6¼ lakhs of maunds in weight and Rs. 105½ lakhs in value, of railway materials (other sorts) by 4¾ lakhs of maunds in weight and Rs. 78⅔ lakhs in value, of timber (excluding railway sleepers) by 9¼ lakhs of maunds in weight and Rs. 53¾ lakhs in value, and of machinery and mill work by a lakh of maund in weight and Rs. 22¾ lakhs in value. The net imports of gunny bags, cloth, fresh fruits and vegetables also increased in volume, though not in value. The chief increases in value were of (1) apparel, Rs. 12 lakhs; (2) other cotton manufactures, Rs. 30 lakhs; (3) wine and spirits (imported), Rs. 38½ lakhs; (4) hardware and cutlery, Rs. 21¼ lakhs; (5) paper and paste board, Rs. 20¾ lakhs; (6) dried fruits and nuts, Rs. 49¼ lakhs; (7) ghi, Rs. 48 lakhs; and (8) woollen piece-goods (foreign), Rs. 13½ lakhs.

(*b*) Decreases. The chief decreases in net imports were :—

Name of article.	Weight in lakhs of maunds.	Value in lakhs of rupees.
Twist and yarn, foreign...	3·50	15¼
Do. do., Indian	1·5	10¾
Piece-goods, foreign	2·5	127¾
Hay, straw and grass	11·5	15
Brass, manufactured	7·1	12¼
Kerosine oil	2·25	18¼
Gur, rab, etc.	3·75	15¼
Rice not in the husk	5·25	69

The fall in exchange and the *swadēshi* movement are responsible for the decrease in twist and yarn and foreign piece-goods. The decrease in the latter is more than counterbalanced by an increase under Indian piece-goods. There was a general scarcity of fodder in the year under report, but the imports of hay, straw and grass neither in volume nor in value were as great as last year. This is due to the fact that these articles were imported in unusually large quantities in 1919-20. The decrease in brass (manufactured) was caused by high prices and that in rice by restrictions imposed on its export to other provinces, while

the decrease in kerosine oil is due to large imports in the preceding year. The outturn of *gur* was above normal in the preceding year and about normal in the year under report and consequently there occurred a decrease in the imports of *gur*, *rab*, etc. The net imports of sugar (refined and unrefined) and coal and coke for railway purposes also declined in volume but increased in value by Rs. 11½ and Rs. 5¾ lakhs, respectively.

Net exports. (*a*) Increases.

263. The most important increases were :—

Name of article.	Weight in lakhs of maunds.	Value in lakhs of rupees.
Wheat	144	751½
Woollen piece-goods, Indian	2·25	13

The increase in the net exports of wheat was due to the fact that the outturn of the spring harvest of 1920 was above normal and that, owing to very small exports of wheat in the preceding year, there was a large demand for its export in the year under report. The *swadeshi* movement, coupled with very small exports of Indian woollen piece-goods in 1919-20, led to an increase in their exports this year.

(*b*) Decreases.

The principal decreases were :—

Name of article.	Weight in lakhs of maunds.	Value in lakhs of rupees.
Raw cotton	7 75	574½
Gram and pulse	2	96
Jowar and bajra	7·5	46½
Other food-grains	2	24
Hides of cattle (raw)	2 5	81½
Skins of sheep, etc. (raw)	1·25	14½
Ale and beer (Indian)	·5	18½
Rape and mustard seeds	24·25	154½
Raw wool	1·5	48½

The decrease in food-grains was due to the imposition of Government control upon their exports ; and in ale and beer (Indian), to the export in large quantities in preceding years.

The restricted foreign demand is responsible for the decrease in other articles.

Treasure.

261. The net imports of gold bullion increased by Rs. 54½ lakhs and those of silver bullion by Rs. 92¾ lakhs owing to low prices. The net imports of silver coin fell by Rs. 203¼ lakhs.

Distribution of trade.

265. Karachi was the province's best customer and its share of the Punjab exports increased from 31 per cent. in 1919-20 to 34 per cent. in 1920-21 owing to heavy exports of wheat. The other chief customers were the Bombay Port and the United Provinces. Exports to the former decreased from 20 to 10 per cent., while those to the latter advanced from 16 to 18 per cent. Imports from Karachi and Bombay increased from 18 and 16 per cent. to 21 and 20 per cent., respectively, and those from the United Provinces and Calcutta fell from 22 and 16 per cent. to 18 and 12 per cent., respectively. Among the internal trade blocks of the province, the share of the Cis-Sutlej territory (excluding Delhi City) remained steady at 31 per cent in total imports and decreased from 43 to 36 per cent. in total exports, while that of the territory between the Sutlej and Jhelum rivers decreased from 38 to 36 per cent. in total imports, but increased from 37 to 50 per cent. in total exports.

Trans-Frontier Trade.

Volume of trade.

266. As compared with the year 1919-20, total imports (excluding treasure) declined by 3,834 maunds in weight but increased by over Rs. 11·14 lakhs in value, while the corresponding figures for increase of total exports were 1,965 maunds and Rs. 2·85 lakhs.

Trade with Afghanistan — Imports.

267. Total imports increased by 2,476 maunds in weight and by Rs. 80,472 in value. Owing to discontinuance of trade relations of Afghanistan with Russia, podina, zofa, raisins and almonds could not be exported from the former to the latter and consequently a large import of them was made into the Punjab. This accounts for an increase of 1,844 maunds in weight and Rs. 54,664 in value under fruits, vegetables, etc. There was an increase of 216 maunds in weight and Rs. 22,680 in value under *ghi* and of 228 maunds in weight and Rs. 3,648 in value under wool. As some of the

Afghan tribes were on hostile terms with the Suleman Khels in the Dera Ismail Khan District, the trade in these articles was diverted to the Dera Ghazi Khan route.

Exports.

268. Exports increased by 2,916 maunds in weight and by Rs. 1,44,389 in value. Under leather (manufactured and unmanufactured) there was a decrease of Rs. 14,040 in value owing chiefly to heavy mortality in Afghanistan and the consequent increase in the local supplies of leather. No unrefined sugar was exported during the preceding year, and the exports of refined sugar were also comparatively small. It was therefore necessary to export a comparatively large amount of sugar (both refined and unrefined) during the year under report. The total amount exported was 1,172 maunds, valued at Rs. 29,810. The discontinuance of Russian imports into Afghanistan and the countries commanded by the Afghanistan trade was chiefly responsible for the increase of 212 maunds in weight and of Rs. 33,920 in value under European piece-goods, and of 536 maunds in weight and Rs. 71,500 in value under Indian piece-goods.

Trade with Central Asia—Imports.

269. Imports declined by 3,337 maunds in weight but advanced by Rs. 9·55 lakhs in value. Under sheep and goats there was an increase in number and in value owing to an increased demand. In respect of *charas* there was a decrease of 55 maunds in weight but an increase of Rs. 1·67 lakhs in value—the advance in value being due to an attempt on the part of the Hoshiarpur licensed-vendors to secure a monopoly of the trade by outbidding other purchasers. Raw silk showed an increase of 681 maunds in weight and of Rs. 8·16 lakhs in value, owing to a rise in the price of silk in the Punjab and an unusually large production of it in Khutan. Under all other articles of manufactured merchandise there was a small increase in value, thanks to a rise in prices in the Punjab. Raw wool decreased by 2,126 maunds in weight and a little over half a lakh in value, the trade in this article being interfered with by floods and the demand being small.

Exports.

270. Exports increased by 269 maunds in weight and Rs. 1·42 lakhs in value. The recent expansion of weaving and other industries in Yarkand has resulted in a considerable increase in the

export of European cotton twist and yarns, indigo and paints and colours to that country. Partly for the same reason and partly because of the rise in their prices in India, the export of cotton piece-goods (European and Indian) has fallen. An increase under medicines and drugs and other spices was due to carriage rates from Leh to Yarkand being cheaper than in the preceding year. The rise in value under manufactured silk was accompanied by a decrease in weight. Velvet and satin, the principal articles of export, are now not only scarce in Indian markets but also are less in vogue in Yarkand. The decrease under unmanufactured leather was due to an increase in stocks caused by the comparatively heavy exports of the preceding two years. All other articles of merchandise were comparatively cheap in the Punjab and consequently there was a larger demand for them in Leh and Yarkand.

Trade with Tibet.

271. There was a decrease of 2,973 maunds in weight but an increase of Rs. 78,618 in value under imports, and a decrease of 1,220 maunds in weight and of Rs. 1,921 in value under exports. In the case of the former the principal variations were under borax and raw wool, the decrease (1,854 maunds) in the former being due to the high cost of production. Under wool there was an increase of 804 maunds in weight and of Rs. 1·38 lakhs in value, but it is possible that the imports were not correctly registered. The principal variations in export were under European cotton piece-goods, Indian cotton piece-goods, and brass and copper. Owing to their comparative cheapness Indian cotton piece-goods have been for some time replacing the European article in the Tibet trade, and the process has now gone so far that in the year under report there were no exports of the former, while the exports of the latter increased considerably.

Treasure.

272. As compared with 1919-20 there was a decrease of about Rs. 8 lakhs in the balance of trade in favour of the Punjab. The decrease in the net import of treasure was, however, much smaller. No gold (bullion or coin) was exported and the import of gold from Central Asia declined by over half a lakh. Imports of silver decreased by Rs. 2·43 lakhs and exports by more than Rs. 80,000. Russian paper money to the value of Rs. 68,292 was re-exported owing to the prohibition of its import into the Punjab.

JOINT STOCK COMPANIES.

273. Although the number of registered companies increased by 18, there is still little sign of any growth of healthy joint stock enterprise. Of 23 new companies not less than 14 were for trading and 3 for banking. Only 2 could be described as industrial. Paid-up capital rose by Rs. 29·7 lakhs to Rs. 354 lakhs. Three companies went into liquidation and 2 were struck off as defunct. The public of the province seem as yet disinclined to invest their capital in this form of association, and it would appear that the essentials required for success in joint stock undertakings are imperfectly appreciated. There is nothing worthy of note to record regarding the progress of insurance companies.

34.—Buildings and Roads.

Total expenditure.

274. The total outlay for the year 1920-21 and for 1919-20 are given in the following table :—

(In thousands of rupees.)

	1920-21.	*1919-20.*
(1) Imperial Military Works ...	92	81
(2) Imperial Civil Works ...	6,67	5,67
(3) Provincial Civil Works ...	1,10,40	90,91
(4) Contribution (including local loans, etc.)	5,09	4,25
Total	1,23,10	1,00,93

The percentage cost of establishment to the total cost of works and repairs executed comes to 11 against 14·0 per cent. for the preceding year.

General.

275. The restriction on railway booking and the difficulty in procuring a sufficiency of coal continued to hamper the progress of works, while on the other hand the prices of building material increased and labour refused to accept lower wages owing to the dearness of foodstuffs. It is evident now that the prices of material and wages for labour have become more or less stabilised at a high figure. The difficulties regarding the lack, throughout the province, of reliable contractors continued to be felt.

276. No military work of importance was carried out during the year under review.

Imperial Military Works.

277. The construction of the new telegraph and telephone office buildings at Simla continues. An expenditure of over Rs. 6¾ lakhs has been incurred against the estimate of Rs. 7·83 lakhs. The whole of this new structure may be described as a masonry shell—the lower storey in stone, the upper in brick—held together by continuous reinforced concrete lintels. Considerable savings have been effected in the thickness of the reinforced concrete floors by making many of the partition walls self-supporting and this design enabled parts of the building to be brought into use as a telephone exchange, workshops, offices, and living quarters, before any part of the roof had been completed. A five years' programme of special repairs to Viceregal Lodge at Simla has been satisfactorily completed. The project for the new buildings for the Wireless School awaits sanction; meanwhile a plot of land, just outside Rawalpindi itself, on the Rawalpindi-Peshawar Road, has been acquired and demarcated with boundary pillars.

Imperial Civil Works.

278. *Administration.*—The most notable work carried out under this head is the temporary Council Chamber at Lahore. Orders for the preparation of the design were given in February 1920, and by the end of the following December the building was complete. Owing to the financial stringency which still prevails, building operations were practically suspended during the year in connection with the Lahore and Simla housing schemes. Similarly the project of a new Secretariat at Charing Cross in Lahore is still in abeyance. Good progress was made in the erection of buildings for all branches of administration in connection with the formation of the new civil district of Sheikhupura.

Provincial Civil Works.

279. *Land Revenue Buildings.*—New tahsil buildings were completed at Okara and Karnal. A court house for the assistant sub-divisional officer at Pindigheb, a combined tahsil and thana at Kot Adu and civil residences for the sub-divisional officers at Alipur and Leiah in the Muzaffargarh District are among the Revenue buildings which were taken in hand and completed during the year.

280. *Agricultural Buildings.*—Various works have been carried out at the Punjab Agricultural College at Lyallpur. A workshop has been constructed for the agricultural engineer and a residence provided for the entomologist. An ample wire fencing has been put up round the botanical area, on which material has also been collected for extending the existing chemistry block. At Hissar the re-roofing of the cattle shed in the stable farm and the construction of a new veterinary hospital and quarters for the assistants and menials in the cattle farm have been completed. The agricultural station at Gurdaspur has now been provided with a large sarai for accommodating visitors and students, while the amenities of the Veterinary College at Lahore have been improved by the addition of a large play-ground for the use of its staff and students.

281. *Educational.*—A particularly fine hostel for the Government College at Lahore is under construction at a cost approximating to Rs. 6 lakhs. This building, which will accommodate 172 students, is to be equipped with electric lights and fans and with an up-to-date sanitary installation. The scheme of construction allows for future extensions so as to accommodate a total of 192 students. Some 45 acres of land in the neighbourhood of Multan city have been acquired for a new Government College, and land has also been acquired for the proposed Government College at Ludhiana. The foundation stone of the European Training College at the Lawrence Asylum, Sanawar, was laid by His Excellency the Viceroy on the 28th October 1920. New school buildings for the Government high and normal schools at Multan were completed; a new building for the Government high school at Jhang was begun; buildings for normal schools at Lala Musa and Gakhar are under construction; and rapid progress was made on the boarding house for the normal school at Campbellpur. At the Government School of Engineering, Rasul, the addition of a new wing to the boarding house has increased the somewhat limited accommodation; a set of rooms was added to the principal's quarters to serve as a rest-house for visitors, an extra block of staff quarters has been erected, and the workshop of the school has been considerably extended.

282. *Jails.*—Various works were undertaken in connection with the Lahore jails: a school building as well as residential quarters for assistant jailors and the sub-assis-

tant surgeon have been constructed in the Lahore Central Jail, and a large barrack has been added to the Borstal Institution.

283. *Police.*—Land has been acquired for a new police station in Ambala city. Police hospitals at Lower Dharmsala and at Dera Ghazi Khan have been completed. At Rawalpindi an extension has been made to the sowars' barracks and also certain additions and alterations have been effected in the Indian police officers' quarters in the police lines. A set of married quarters for constables was also added to the Multan police lines.

284. *Medical.*—A new tuberculosis hospital and enclosure have been added to the Lunatic Asylum building at Lahore and the new capacious laboratory for the Chemical Examiner to Government, Punjab, has been completed.

285 *Communications.*—The largest works in this direction have been the construction of road bridges, which were begun last year over the Chenab and Palkhu rivers at Wazirabad. The bridge (17 spans of 142 feet each) over the Chenab consists of girders supported on 18 wells (including two abutments) the progress on the sinking of which, during the period under report, has been entirely satisfactory. The smaller bridge of 3 spans over the Palkhu river is nearing completion. A masonry arch bridge of a single 65 feet span has been thrown across the Giri river at Chela in the Simla District, while the much-needed widening of the Leh Bridge on the Rawalpindi-Murree Road cost nearly Rs. 75,000. The task of improving and bridging gaps on the various sections of the Grand Trunk Road was continued. On the Beas section, two important gaps have been completed and another is well under way, while between Gujar Khan and Sahawar girder bridges have been built over the Bhai Khan and Bishan Dore ravines, and a reinforced concrete floor replaces the wooden platform of the Chablat bridge between Hasan Abdal and Burhan.

(i) Bridges.

The first instalment of a comprehensive scheme for the improvement of the Kalka-Simla Cart Road, to fit it for motor traffic, consisted in the widening and straightening of the sharper and dangerous corners. Similarly, the cutting of dangerous corners and the improving of the bridges and culverts on the

(ii) Roads.

Kasauli Road are also receiving attention. Work on the second section of the Larji-Mandi Road, which traverses an extremely difficult section of hill country abounding in precipitous cliffs, progresses rapidly. Improvements on the Multan-Loralai Road have made it possible to motor between Multan and Ghazi Ghat, right on to Fort Munro. The construction of the new cart road from Fatehjang to the oil-fields at Khaur is now nearing completion. The road connecting Lahore with Sheikhupura has been greatly improved and made fit for wheeled traffic.

Sanitation.

286. The water-supply at Dera Ghazi Khan continues under the management of the Public Works Department on account of the special difficulties encountered in maintaining the supply, which is now equivalent to an average of about 5·8 gallons per head per day. The 4 tube wells from which the supply is drawn tend to diminish in yield through the blocking of the strainer tube with a deposit of calcium carbonate ; so far, no permanent remedy has been discovered by which this can be prevented, and recourse has to be had to the troublesome and expensive process of drawing up and re-sinking the strainer tube after scraping.

Drainage.

287. The Rupar drainage scheme was sanctioned for Rs. 2·43 lakhs and work was started in September 1919. The expenditure to the end of the financial year 1920-21 was Rs. 19,259. The difficulty in obtaining coal and water is hindering progress. Satisfactory progress was made with the Shujabad drainage scheme, which was started in June 1920 and is expected to cost about Rs. 20,000.

Electrical projects.

288. The survey of the Sutlej River hydro-electric project was proceeded with under Lieutenant-Colonel B. C. Battye, D.S.O., R.E., throughout the year. The detailed designs were finished and a very complete set of estimates worked out. The designs provide for a plant of 80,000 K. W. capacity feeding into a 132,00 volt transmission system, capable of supplying Delhi and Lyallpur, together with intermediate stations such as Lahore, Amritsar, Jullundur, Ambala and many others. The scheme, it is anticipated, will take about five years to complete, will cost eventually about Rs. 9 crores and will, it is hoped, pay in the neighbourhood of 9 per

cent. in the tenth year of operation. Licenses were granted to the General Electrical Company, Limited, for the supply of electricity in Rawalpindi and Lyallpur. Applications for licenses were received for Multan, Sialkot, Ferozepore and Gujranwala, but were not granted during the year. The Municipal Committee of Hissar have asked the Electrical Inspector to prepare a preliminary report on an Electric Supply Scheme for the town. A concession for developing power from four canal falls was granted to the Punjab Hydro-Electric and Industry Development Association. During the year under review the administration of the Electricity Act was transferred from the Public Works Department to the Director of Industries.

Establishment.

289. Owing to the reorganisation of the engineering establishment of the Buildings and Roads Branch the sanctioned cadre has been reduced from 43 to 33. One newly appointed assistant executive engineer joined the Buildings and Roads Branch during the year. Colonel B. C. Battye, R. E., continued to serve on deputation as Officer-in-charge, Sutlej River Hydro-Electric Project Division, and the staff of the division was increased by the appointment of Major R. N. Aylward, D.S.O., and Lieutenant A. Guthrie, R.E., in April and May 1920, respectively. The Punjab Engineering Service came into being with a sanctioned cadre of 24 assistant engineers. Eighteen appointments were made and these were partly filled by selected upper subordinates already in the department and two temporary engineers. Six vacancies in the cadre have been kept open for engineers trained at the Thomason Civil Engineering College, Roorkee. The pay of the service is Rs. 250—20 –750, with an efficiency bar at Rs 550. Selected men in this service may be promoted to the Indian Service of Engineers, though such appointments will be rare.

34-A.—Railways.

290. The considerable restrictions on booking of goods on the North-Western Railway referred to in last year's report were to a great extent withdrawn during 1920-21, because the movements of military personnel and stores were much reduced. There was, however, a good deal of difficulty during the cold weather in obtaining sufficient wagons for goods traffic and this resulted in accumulations at the goods sheds of some stations, particularly in irrigated tracts of the pro-

vince ; by the end of March these accumulations had really disappeared. There was a strike on the railway in May and June of 1920, which caused some dislocation of traffic. Later in the year considerable improvements were made in the passenger services, but even so they were still admittedly inadequate for the large increase in passenger traffic which has developed.

35.—Irrigation.

General.

291. The direct receipts and expenditure during the year amounted to Rs. 341·50 lakhs and Rs. 156·18 lakhs, respectively, as compared with Rs 331·46 lakhs and Rs. 128·51 lakhs for 1919-20, the average of the triennium ending 1919-20 being Rs. 300·06 lakhs and Rs. 133·42 lakhs. The expenditure, as divided between Capital and Working Expenses, was Rs 7·70 and Rs. 148·48 lakhs respectively. The former figure is the net expenditure after crediting the sum of Rs. 6·44 lakhs realised from sales of surplus tools and plant and from the colonists on account of cost of water-courses, etc., which was also expended during the year. Thus the total direct capital expenditure amounted to Rs. 14·14 lakhs, half of which was incurred on the improvements to the Lower Chenab Canal Head Works at Khanki and on the remodelling of the main line, branches and distributaries of the Lower Jhelum Canal; on other canals the expenditure does not call for any special mention. The indirect revenue, credited to the canals on account of enhanced land revenue, etc., amounted to Rs. 143·25 lakhs as against Rs. 133·59 lakhs for 1919-20, and Rs. 132·27 lakhs which is the average of the three years ending 1919-20.

Area irrigated.

292. The total area irrigated by works of all kinds under the control of the Irrigation Department was 10,273,690 acres, showing a decrease of 182,968 acres as compared with the figure (10,456,658 acres) of the previous year and an increase of 681,509 acres over 9,592,181 acres, the average of the previous triennium.

Finance.

293. The capital outlay (direct and indirect) incurred on canals classed as Productive Major Works was Rs. 8·04 lakhs. The total outlay to date is about Rs. 2,407 lakhs, including Rs. 155 lakhs contributed by Native States. The net revenue earned by

the Imperial Canals amounted to Rs. 326·80 lakhs, or 14·51 per cent. on the capital invested to date, *viz.*, Rs. 2,252·22 lakhs.

Major Works.

294. The areas irrigated by, and the financial results of, each of the Major Works are shown in the following table :—

1	2	3	4	5	6	7	
Serial No.	Name of Canal.	Area irrigated. (in thousands)	Gross receipts. (in lakhs of	Working Expenses. rupees).	Net income.	Percentage profit on Capital Outlay. Excluding interest charges.	Including interest charges.
		Acres.	Rs.	Rs.	Rs.		
1	Western Jumna ...	819	37·94 (*a*)	17·76	20·18	11·27	8·09
2	Sirhind	1,706	47·67 (*b*)	15·04	32·63	12·63	9·45
3	Upper Bari Doab ...	1,177	56·48	17·32	38·86	17·31	14·07
4	Lower Bari Doab ...	853	51·48	16·01	35·47	15·68	12·35
5	Upper Chenab ...	601	28·90	17·98	10·92	3·09	— 0·16
6	Lower Chenab ...	2,396	169·33	22·73	146·60	44·33	41·08
7	Upper Jhelum ...	345	13·30	12·17	1·13	0·25	3·03
8	Lower Jhelum ...	823	43·83	10·61	33 22	19·16	15·88
9	Upper Sutlej Inundation Canals.	327	8·36	5·50	2·86	15·64	12·50
10	Sidhnai Canals ...	210	4·01	1·65	2 36	17·65	14·45
11	Indus Inundation Canals.	249	6·26	3·69	2·57	8·64	5·41
	Total ...	9,506	467·56	140·76	326·80	14·51	11·25

(*a*) Excludes Patiala State.

(*b*) Excludes Native States of Patiala, Nabha and Jind.

Minor Works.

295. On all the Imperial Minor Works not classed as Productive including the two canals for which capital and revenue accounts are kept, the net profit amounted to Rs. 3·23 lakhs, as compared with Rs. 5·42 lakhs in the previous year. There is only one Provincial Canal in operation, *viz.*, the Shahpur Provincial Canal on which the year's working resulted in a loss of Rs. 33,499.

296. A short note on the working of each canal is given below :—

MAJOR WORKS—CANALS IN OPERATION.

Western Jumna Canal.

297. From an agricultural and irrigational point of view the seasons were unfavourable. A little rain fell in February and March, except in the Hissar district. This helped the early *kharif* sowings. Light local showers were received in May. Between the last week of June and the first week of August good but unevenly distributed rain fell, but the monsoon then weakened and finally withdrew. This withdrawal created a most intense demand all over the canal. The *rabi* season was entirely rainless. The river supply, too, was abnormally low and distribution by rotation was resorted to throughout the season. The canal was in flow for 175 days in the *kharif* season and 182 days in the *rabi*. The total area irrigated, including the area irrigated in Patiala and Jind States, was 819,201 acres (409,984 acres in *kharif* and 409,217 acres in *rabi*), as compared with 854,982 acres (424,436 acres in *kharif* and 430,546 acres in *rabi*) during 1919-20, and 766,946 acres (382,236 acres in *kharif* and 384,710 acres in *rabi*). Under Imperial the gross receipts were Rs. 37·94 lakhs and the working expenses Rs. 17·76 lakhs, yielding a net revenue of Rs. 20·18 lakhs, or 11·27 per cent. for 1919-20, against 10·27 per cent., the average for the previous triennium. Considering the unfavourable conditions the result for the year compares not unfavourably with that of the previous triennium. The net revenue received by the Patiala State on their channels on the Sirsa Branch amounted to Rs. 1·99 lakhs, or 17·10 per cent. on the capital invested, as compared with an average of Rs. 2·02 lakhs, or 17·32 per cent. for the triennium ending 1919-20, and Rs. 1·90 lakhs, or 16·28 per cent. in the previous year

Sirhind Canal.

298. Light monsoon rains began in June and were followed by good rainfall in July. There was a decline in August, the monsoon practically ceasing in the middle of that month. September was almost rainless and October, November and December were quite dry. The monsoon was therefore distinctly in defect. Owing to the keen demand all channels were worked up to the limit of their capacities and there was little complaint of shortage of supply. The canal was closed for only 2 days in the *kharif* season and not at all in the *rabi* season. The area irrigated by the British branches amounted to 1,073,108 acres, while that irrigated by Native States branches was 632,346 acres. The figures for the year 1919-20 and the average of the triennium ending 1919-20 were 1,004,917 acres and 814,842 acres, respectively, for the British branches, and 544,200 acres and 487,295 acres, respectively, for the Native States branches. The area (392,923 acres) irrigated by the British branches during *kharif* was the second highest on record, the previous highest being in 1919 when 403,647 acres were irrigated. The Native States branches showed the best results, the area irrigated during *kharif* and *rabi* taken individually and collectively beating all previous records. For the whole canal, too, the area irrigated was the highest on record. The net revenue earned by the British branches from all sources, after deducting Rs. 15·04 lakhs for working expenses, amounted to Rs. 32·63 lakhs, giving a return of 12·63 per cent. on the capital cost as against 11·63 per cent. in the preceding year. The Native States also had a prosperous year, having collected Rs. 26·15 lakhs or above ¾ of a lakh more than in the previous year.

Upper Bari Doab Canal.

299. The monsoon broke in July and the fall from June to September at Madhopur headworks amounted to 22·2 inches, against 30·19 inches during the corresponding period of the previous year and 46·52 inches in 1917. It was, on the whole, a very poor monsoon. Demand was very keen but supply in the river was insufficient. Rotation of outlets and minors had to be resorted to and branches were run by rotation as usual. Heavy rain fell in the first week of August and this was the only good fall during the monsoon in Amritsar and Lahore districts. The year was practically rainless from October to March and this had the effect of reducing *rabi* irrigation by about 75,000 acres, as compared

with the *rabi* area of 1919-20. The total area irrigated amounted to 1,176,922 acres (606,170 acres in *kharif* and 570,752 acres in *rabi*) against 1,252,583 acres in the previous year, the highest on record. It was, however, equal to the average of the previous six years and taking into account the unfavourable seasons was quite satisfactory. The net income was Rs. 38·86 lakhs, or 17·31 per cent. on the capital invested, as compared with 16·61 per cent. in 1919-20.

Lower Bari Doab Canal.

300. The canal was in flow for 330 days (173 days in *kharif* and 157 in *rabi*) against 322 days in the previous year. The demand for standing principal *kharif* crops being very keen and the rainfall poor, the sowing of *kharif* fodder was very much restricted and this affected the fodder conditions in the following *rabi* to a serious extent. The *rabi* season was very disappointing. Almost complete failure of the monsoon and of winter rains resulted in a low river and poor canal supplies. Not only did the irrigated area (852,638 acres) fall short of the preceding year by 16,794 acres but the situation with regard to fodder crops grew worse and extensive failure of crops occurred. The total area remitted during *rabi* gave the high percentage of 44·54 on the area irrigated. The progress of canal irrigation, as stated in previous reports, was still somewhat behind the project, which anticipated 877,908 acres to be irrigated during the year under review. The carrying capacity of the canal has been brought up to full authorised discharge (6,750 cusecs), but the area irrigated has yet to develope to full figures. This will be achieved by greater economy in use and better distribution of water and gradual improvement of the poor soil. The net revenue was Rs. 35·47 lakhs, as compared with Rs. 32·80 lakhs in 1919-20. The increase is due to development of irrigation.

Upper Chenab Canal.

301. The *kharif* season was one of the driest on record. Except for a few showers at the end of July and beginning of August there was practically no rainfall. The rice season began with the rain in the beginning of August and sowings continued till nearly the end of that month. The demand for canal water was intense and very high supplies were consequently run in the canal. The *rabi* season was also marked by an almost entire absence of rain. Owing to the

extraordinarily low state of both the Jhelum and Chenab rivers, the rotational programme of the Quintuple Canal system had to be enforced from the 28th September, instead of the 1st October as usual. The total area irrigated during the whole year was 601,347 acres as compared with 648,367 acres estimated in the Project. The latter is now within a very short distance of attainment, whilst Mr. Wood's forecast of 530,000 acres in the Completion Report has long been surpassed. The net revenue was Rs. 10·92 lakhs or 3·09 per cent. on the capital outlay as compared with 3·63 per cent. in the previous year, the falling off being due to the canal being, in a great measure, a feeder for the Lower Bari Doab Canal, so that as a commercial proposition it cannot be judged solely by its own financial results.

Lower Chenab Canal.

302. The year was an abnormal one, the *kharif* season, being unusually dry, rainfall scanty and the demand keen. The usual Christmas rains also failed and the *rabi* crops were below the average. The canal was closed for three days only. The area irrigated was 2,395,976 acres (834,149 acres in *kharif* and 1,561,8 7 acres in *rabi*) and was less by 59,249 acres only than the record figures of 1919-20. The net revenue amounted to Rs. 146·60 lakhs, or 44·33 per cent. on an outlay of Rs. 330·65 lakhs, as compared with Rs. 146·15 lakhs, or 44·72 per cent. in the previous year.

Upper Jhelum Canal.

303. Rainfall was scanty during the *kharif* season but owing to the supply in the river being sufficient the demand was met without any difficulty. During the *rabi* season, winter rains failed and the demand for water was very keen; the supply in the river was low, but all crops matured safely. The area irrigated amounted to 345,189 acres as compared with 298,857 acres in 1919-20. Development of irrigation is only a little short of the Project forecast of 348,000 acres and this is due to the fact that irrigation commenced a year later than was anticipated in the Project. The net revenue was Rs. 1·13 lakhs or 0·25 per cent. on the capital outlay.

Lower Jhelum Canal.

304. The rainfall during the year was even less than in the preceding driest year of 1918-19. The absence of winter rains has perhaps no parallel within living memory. The *kharif* season was, on the whole, not so bad as the *rabi* season,

when owing to the absence of winter rains the maturing of the crops was a matter of great anxiety and the resulting outturn was below normal. Of the total area irrigated, 273,000 acres were irrigated during the *kharif* season and 550,021 acres during *rabi*. The former area, though less by 11,070 acres than that in 1919-20, was larger than the average of either of the two previous triennia. The *rabi* area though less by 37,707 acres than the average of the triennium ending 1916-17, was better than in 1919-20 and the average of the triennial period ending 1919-20. The net revenue was Rs. 33·21 lakhs, or 19·16 per cent. on the capital outlay. In the previous year the percentage was 19·32. The decrease was due to an increase under working expenses, owing partly to revision of pay of all classes of establishment.

Upper Sutlej Inundation Canals.

305. The net area assessed was 314,451 acres, which was less by 19,081 acres than the figure of 1919-20 and by 16,610 acres and 21,601 acres than the averages of the triennial periods ending 1916-17 and 1919-20, respectively. The net revenue of Rs. 2·86 lakhs shows a return of 15·64 per cent. on the capital outlay. In 1919-20 the figures of net revenue and the percentage were Rs. 2·94 lakhs and 16·15 respectively.

Sidhnai and its subsidiary canals.

306. The irrigation effected was 132,688 acres in *kharif* and 77,318 acres in *rabi*, as compared with 139,749 acres and 144,037 acres in the corresponding seasons of the preceding year. The failed area was 55,028 acres in *kharif* and 42,406 acres in *rabi* The increase of *kharaba* was due to there being no rain from September 1920 to March 1921, while the canal was dry on 12th November 1920 and did not flow again during the *rabi*. Such area as was matured, was matured by wells. The net revenue of Rs. 2·36 lakhs represents 17·65 per cent. on the capital outlay, against Rs. 5·33 lakhs, or 40·05 per cent. in the previous year.

Indus Inundation Canal.

307. The area irrigated was 161,198 acres in *kharif* and 88,204 acres in *rabi*, as compared with 166,489 and 73,154 acres, respectively, in the corresponding seasons of the preceding year. The decrease in the area irrigated during the *kharif* season was due to the late rise of the river and consequent late opening of the canals, while the increase during *rabi*

was due to the new Dhundi and the Dhundi Kutab flowing throughout the winter with small supplies. The total area remitted amounted to 61,927 acres during *kharif* and 30,371 acres during *rabi*. Bad soil accounts for most of the *kharaba*, as on certain channels there are large tracts in which the soil is poor and requires a great amount of labour, which the Biloch cultivator has neither the inclination nor the energy to supply. The net profit was Rs. 2·57 lakhs, or 8·64 per cent. on capital outlay, as against Rs. 2·22 lakhs, or 7·46 per cent. in the preceding year.

Minor Irrigation Works.

Shahpur Imperial Inundation Canal.

308. The canal opened late in April and closed in the middle of August on account of a low river. The area irrigated was 35,941 acres, as against 45,809 acres in the preceding year and 39,075 and 35,056 acres, the averages of the two triennia ending 1916-17 and 1919-20, respectively. Revenue was remitted on 5,576 acres, out of which the failure of 4,926 acres was due to short supply. The net loss was Rs. 24,877 which shows an excess expenditure of about 11·05 per cent. on Rs. 2·25 lakhs, the capital outlay to date.

Ghaggar Canals.

309. The operations of the year resulted in a loss of Rs 27,811 which is equivalent to 7·28 per cent. on the capital outlay, compared with a loss of Rs. 28,817, or 7·61 per cent. in the previous year. The financial failure of the Ghaggar canals classed as a productive work, though it is virtually a protective work of importance, has become an accepted fact. During the course of the present settlement ways and means to alter the obviously unfair settlement have been discussed with the settlement officer and a more equitable settlement is anticipated.

Lower Sutlej Inundation Canals.

310. The area irrigated was 233,064 acres, as against 301,555 acres in the preceding year and 285,585 acres, the average of the previous triennium. The failed area amounted to 85,489 acres (62,296 acres in *kharif* and 23,193 acres in *rabi*) against 54,871 acres (35,852 acres in *kharif* and 19,019 acres in *rabi*) in the preceding year. There was a net loss of Rs. 552 as against a profit of Rs. 25,767 in 1919-20 owing to a heavier expenditure during the year, which was due to a work done on the Hajiwah and Muhammadwah head diversions. The heads of the canals worked satisfactorily with the exception of (1) the head of the Muham-

madwah, which owing to heavy river erosion was cut away in August (this canal was subsequently fed direct from the river and continued to give a good supply), and (2) the head of the Hajiwah Canal, which became silted in August on account of shoaling in the river, the canal thereafter being fed through an auxiliary head with satisfactory results.

Chenab Inundation Canals.

311. Owing to the river not rising as early as usual, the canals opened at a later date than the average of the previous years. The season was characterised by the absence of rains to any appreciable extent. There was no rain during September, October, November, February and March and the canals ceased to flow in September as a result of the low river, while the demand was keen throughout the year. The area irrigated was 131,360 acres as compared with 182,676 acres in 1919-20. The net income amounted to Rs. 1·37 lakhs, against Rs. 1·89 lakhs in the preceding year.

Muzaffargarh Inundation Canals.

312. The area irrigated was 330,167 acres, as compared with 364,350 acres in 1919-20 and 384,832 acres and 352,663 acres, the averages in the previous two triennia, respectively. The decrease was due to the low rivers and absence of rain. The net revenue was Rs. 2·40 lakhs, against Rs. 3·47 lakhs in the preceding year. The redeeming feature of the period under report was that, although the Indus fell like other rivers about the middle of August, some of the canals taking off from it, namely, Kot Sultan, the Magasson, the Puran and the Suleman, having very favourable conditions at their heads, continued to flow with appreciable supplies till late in the cold weather. This was a great boon to the cultivators as it enabled them to secure good *rabi* irrigation.

Shahpur Provincial Inundation Canals.

313. The canals were opened late in April, but owing to an unfavourable river they ceased to flow in August, which was earlier than usual. On the whole they worked satisfactorily. The area successfully matured and assessed, including areas under free grants, was 20,501 acres, as against 34,175 acres in the preceding year. The decrease is due to water not being available at the time of *rabi* sowings. Revenue was remitted on 2,089 acres, of which 1,179 acres were due to short supply, revenue on the remainder being remitted under free grants. The year's working resulted in a net loss of Rs. 33,499, against a net loss of Rs. 5,711 in the preceding year.

CHAPTER V.

Revenue and Finance.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Land Revenue.—Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1920.

Canal Revenue.—Administration Report of the Irrigation Department, Punjab, for the year 1920-21.

Excise and Opium.—Report on the Excise Administration of the Punjab for the year 1920-21.

Stamps.—Report on the Administration of the Stamp Department of the Punjab for the year ending 31st March 1921.

Income-tax.—Report on the Income-tax Administration of the Punjab for 1920-21.

Forests.—Progress Report of Forest Administration in the Punjab for 1920-21.

Provincial Revenues.—Review of the Audit and Appropriation Report on the Accounts of the Punjab for 1919-20 and Review of the Annual Accounts of the Punjab for the year 1920-21, published in the *Punjab Gazette*, dated $\frac{\text{June 17th, 1921.}}{\text{December 30th, 1921.}}$, Supplement, Part II.

Local Funds.—Report on the Administration and Accounts of the District Boards in the Punjab for 1920-21.

Municipal Revenues.—Report on the working of Municipalities in the Punjab during the year 1920-21.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume I—Commercial Statistics.

Volume II—Financial Statistics.

Volume IV—Administrative and Judicial (including area, population and local funds).

Salt.—Report on the Administration of the Northern India Salt Revenue Department for the official year 1920-21.

36.—Gross Revenue and Expenditure.

Revenue.

314. The following table shows the receipts under the various heads of revenue, excluding revenue from salt, in the year under report :—

(In thousands of rupees.)

Major Heads.	Imperial.	Provincial.	Total.	+ more —less on figures for 1919-20.
Land Revenue	1,50,18	1,50,17	3,00,35	−13,26
Opium	6,97	...	6,97	− 1,85
Stamps	40,87	40,86	81,73	+ 3,84
Excise	73,97	73,97	1,47,94	+18,54
Provincial rates	...	37	37	− 4
Customs	9		9	— 15
Income-tax	39,74	26,15	65,89	+10,34
Forests	...	38,05	38,05	— 41
Registration	...	5,61	5,61	— 2
Tribute from Native States ...	1,48	...	1,48	+ 4
Interest	2,35	2,36	4,71	− 2,02
A.—Law and Justice—Courts of Law.	...	7,21	7,21	— 96
B.—Law and Justice—Jails ...	...	5,24	5,24	+ 12
Police	...	3,13	3,13	— 17
Education	...	4,96	4,96	— 14
Medical	...	95	95	+ 15
Sanitation	...	1,20	1,20	+ 2
Agriculture	..	6,67	6,67	— 79
Scientific and Miscellaneous ...	...	20	20	— 12
Receipts in aid of superannuation	80	83	1,63	— 6
Stationery and Printing ...	1,29	1,45	2,74	+ 40
Miscellaneous	12,35	10,45	22,80	− 5,29
Irrigation—Major Works ...	2,33,96	2,33,95	4,67,91	+19,62
„ Minor Works ...	7,46	85	8,31	— 52
Civil Works	3,25	5,63	8,88	+ 2,01
Transfers between Imperial and Provincial revenue.	−55,32	+55,32	...	...
Total ...	5,19,44	6,75,58	11,95,02	+29,28

315. The gross expenditure excluding expenditure of the Salt, Military, Railways, Post Office and Telegraph Departments and capital expenditure on canals, was as follows :—

Expenditure.

(In thousands of rupees.)

Major Heads.	Imperial.	Provincial.	Total.	+ more − less on figures for 1919-20.
Refunds and Drawbacks ...	3,73	3,47	7,20	+ 2,80
Assignments and Compensation	69	33	1,02	− 11
Land Revenue	...	73,82	73,82	+ 16,18
Stamps	1.16	1,16	2,32	+ 7
Excise	1,59	1,59	3,18	+ 68
Income-tax	1,05	1,02	2,07	+ 97
Forests	..	35,75	35,75	+ 11,59
Registration	..	1,99	1,99	+ 23
Interest ...	3.18	2,00	5,18	+ 37
General Administration	6,51	21,33	27,84	+ 8,75
Law and Justice—Courts of Law		63,55	63,55	+ 10,23
Law and Justice—Jails ...	...	24,41	24,41	+ 53
Police	...	96,16	96,16	+ 10,67
Education	...	73,12	73,12	+ 15,86
Ecclesiastical	3,87	...	3,87	+ 1,40
Medical	...	23,41	23,41	+ 9,38
Sanitation		8,37	8,37	− 1,57
Political	6,82	...	6,82	+ 32
Agriculture	...	26,00	26,00	+ 5,07
Scientific	74	3,65	4,39	+ 2,02
Territorial and Political Pensions	68	...	68	+ 1
Superannuation, &c. ...	24	27,81	28,05	+ 2,25
Stationery and Printing ...	42	10,59	11,01	+ 1,04
Miscellaneous	64	19,66	20,30	− 20
Famine Relief	1,01	34	1,35	+ 1,17
Irrigation, Major Works ...	66,01	66,01	1,32,02	+ 14,66
„ Minor Works ...	11,60	4,80	16,40	+ 2,11
Civil Works	36,10	1,20,86	1,56,96	+ 17,05
Total ...	1,46,04	7,11,20	8,57,24	+1,33,62

37.—Land Revenue.

316. The Land Revenue Report gives the figures for land revenue according to the agriculture year, which ends on the 30th September. There must consequently always be a difference between the total collections as calculated by the Treasury on the financial year and the yearly returns furnished by the Financial Commissioners' office.

For the year ending September 1920 the following are the figures of collections including those on account of

previous years, comments on which have already been made in section 10 dealing with demands:—

	Rs.
Fixed Land Revenue	2,41,75,569
Fluctuating Land Revenue	1,54,78,705
Temporarily excluded from Fixed Land Revenue Roll	83,769
Other Land Revenue	65,32,172
Total ...	4,62,70,215

38.—Irrigation.

317. The gross receipts from the operation of major works amounted to Rs. 468·45 lakhs, and working expenses to Rs. 141·65 lakhs, giving a net revenue of Rs. 326 80 lakhs, or 14·51 per cent. on the total outlay of Rs. 2,252·22 lakhs, as against 14·43 per cent. in the preceding year. The net profit, after defraying interest charges, comes to 11·25 per cent. of the total outlay, compared with 11·08 per cent. in 1919-20, while direct receipts alone yielded 5·26 per cent. Of the Triple Canal Project the Lower Bari Doab Canal has shown remarkable financial results: in seven years it has paid off the whole of its interest debt, amounting to over Rs. 69½ lakhs, and now shows a surplus revenue of nearly Rs. 35 lakhs to its credit. The Upper Chenab Canal also has cleared nearly half of its accumulated interest charges. The operations of minor works resulted in a net revenue of Rs. 2·90 lakhs, as against Rs. 5·36 lakhs in the previous year.

39.—Excise.

Income and expenditure.

318. The gross income from all sources very nearly touched Rs. 148 lakhs, or more than Rs. 18 lakhs above the income of the previous year, a rise which is the more remarkable in view of decreased consumption generally. The expenditure of the department advanced from Rs. 2·66 lakhs to Rs. 3·35 lakhs.

Distilleries.

319. The distilleries showed increased activity in the production of rectified and denatured spirits but the output of potable country liquor declined. Spiced spirit continues to gain in popularity at the expense of plain spirit, owing, partly, to the

sealed bottle system which was further extended. In the last three months of the year the Amritsar distillery was called upon to meet a large demand from Sind. Exports were also made to Jammu and Kashmir and, in consequence of an agreement with Chamba, into the Bhatti tract of that State The Indian distillery at Cawnpore, the Rosa and the Lucknow distilleries all exported liquor to the Punjab, but railway restrictions reduced the total amount as compared with the preceding year.

Breweries.

320. There was again a falling off in the sale of country beer from 2,525,558 gallons to 1,869,905—though even the latter figure is considerably in excess of pre-war consumption. The trade in imported beer, on the other hand, was brisk. The duty on beer was raised from Re. 0-4-6 to Re. 0-6-6 with effect from 1st March 1921.

Country spirit.

321. The consumption of country liquor decreased by 30,921 gallons, or 5·6 per cent.—a result achieved by raising the duty from Rs. 6-4-0 per gallon to Rs. 7-8-0, by reducing the number of shops from 666 to 605 and by adding Rs. 10 lakhs to license fees. In the preceding year there had been an increase in both plain country spirit and spiced spirit. In the year under report the consumption of the former went down by about 75,000 gallons, but the rise in consumption of spiced or special spirit was as much as 43,000 gallons. These figures show that not only is more money being spent on the whole on liquor, but that most of it is being spent on the expensive varieties produced in the country: the sale of spiced spirits has nearly doubled itself in three years. Whether this growth is evidence of the fact that indulgence in liquor is on the rise among the more well-to-do classes, or whether of the fact that the consumer, irrespective of his class, is convinced rightly or wrongly by advertisements or otherwise that he gets his money's worth better by taking special spirit, this much is indubitable that high prices have not proved deterrent. There were 759 convictions for drunkenness, as against 863 in the preceding year. The introduction of the sealed bottle system is said to be responsible for the decline of convictions in the municipal areas of Simla, Amritsar, Lyallpur and a few other towns Two hundred and fifty-six persons were convicted for illicit distillation, 19 for illicit sale of liquor and 148 for illicit possession of country liquor.

Opium.

322. There was a further reduction in the consumption of opium, the only district in the province which increased its consumption being Amritsar. The decrease is attributed to three causes; (*i*) the enhancement of the issue price from Rs. 32-8-0 to Rs. 40 per seer and corresponding increases in import and transport duties, (*ii*) the system of rationing referred to in the report of the preceding year, and (*iii*) a further reduction in the number of opium shops, 110 shops having been closed in the last two years. The retail price of opium to the consumer showed a very remarkable rise ; the price per seer is reported to have ranged between Rs. 50 and Rs. 237, the latter figure being reached in Jhang. These high prices stimulated smuggling of Rajputana opium into the Punjab. Sixteen persons were convicted as the result of raids made on *chandu* and *madak* dens. The total receipts from opium advanced from Rs. 30·55 lakhs to Rs. 36·28 lakhs.

Hemp drugs.

323. While considerable variations occurred in the consumption of *charas* in the different districts, the total amount consumed was practically the same as in the previous year (21,201 seers against 21,327 in 1919-20). The consumption of *bhang* inside the province fell from 93,135 seers to 84,745, but exports to Native States and to other provinces increased by 4,500 seers and about 11,000 seers, respectively.

Cocaine.

324. Sales of cocaine rose from 6,788 grains to 9,703. Cases of illicit traffic in the drug still occur ; four were detected in Ambala district alone.

Standing Committee on Excise.

325. The Standing Committee of the Punjab Legislative Council on Excise (now a transferred subject) held a meeting on the 16th September 1920, in which it was decided, with the object of restricting increase in drinking, to introduce a system of fixed maximum issues of spirits for each liquor shop on the lines of the system already in vogue for opium shops. The details of the scheme have been worked out and applied to nine districts from the 1st of April 1921. Towards the end of the financial year a resolution on local option was carried in the Council.

40.—Salt Revenue.

Cis-Indus and Kalabagh Mines.

Khewra Mine.

326. This was a most unfortunate year for the mine on account of the strike of miners at Khewra, which began at the end of January 1921. The output was only 3,602,330 maunds as compared with 3,827,658 in the preceding year. Excavation work was normal up to September 1920 and thenceforward until the strike occurred was exceptionally good. The drainage works completed last year could not be thoroughly tested because there was very little rain during the monsoon. The earth filled into the large depressions has, however, had time to settle and less water entered the mine. A masonry aqueduct has also been constructed in order to protect the low level tunnel where it passes under the Billianwala stream. Work on the improvement of the water supply at Khewra and Warcha was continued, and is now nearly finished.

Warcha Mine.

327. The development of the Warcha Mine made very little progress during the year, the mine being blocked with an accumulation of salt. Drifts aggregating 947·5 running feet were driven at a cost of Rs. 1,375. The tramway and rolling stock were kept in order. The new bungalow for the superintendent was constructed and work on the hospital and quarters for the medical staff approached completion.

The smaller mines.

328. No expenditure was incurred at the Nurpur mine. Advances were made in the two drifts at Kalabagh and a cross drift now connects the two. Salt amounting to 5,821 maunds were excavated.

Financial results and sale price.

329. There was a net loss during the year of Rs. 44,836 as compared with a net profit of Rs. 83,804 in 1919 20. The average cost of excavation and transport to the depôt cannot be given for the complete year owing to the strike. The price of salt from the Salt Range was further raised from 2 to 3 annas a maund with effect from the 1st March 1921.

Investigation of the potash salt deposits at Nurpur.

330. Excavation of potash salt continued at Nurpur. One thousand three hundred and fifty maunds were sent to Calcutta during the year.

Accidents.

331. The average number of persons employed daily above and below ground during the calendar year fell from 859 to 852, of whom 487 were men, 312 women and 53 children under twelve years of age. There were 46 minor accidents and 5 serious accidents at Khewra, and none at either Warcha or Kalabagh.

Jail prisoners.

332. The employment of jail prisoners at Khewra continued to prove successful. Their introduction in larger numbers was under consideration, since the free labour available for depôt purposes was found to be inefficient as well as expensive.

Mandi Quarries.

Mandi.

333. Sales of Mandi salt amounted to 145,619 maunds, an increase of 15,947 maunds over the figure of the previous year. The increase of 12,905 maunds at Guman and 3,042 maunds at Drang was due to satisfactory working and to the dryness of the weather. The year closed with no uncleared balance and with 10,911 maunds of salt in stock. There was no change in the area of consumption and the price and duty remained as before.

Sultanpur Salt Works.

Sultanpur.

334. The demand for Sultanpur salt was fairly brisk. The outturn from the 32 licensed works was 42,129 maunds, as compared with 45,819 maunds in 1919-20 ; clearances were 55,999 maunds against 23,922 The sale price fell from 10 to 8 annas a maund. The year closed with a balance of 10,228 maunds in store and indents for 400 maunds to be cleared.

Saltpetre.

Saltpetre.

335. Rs. 3,806 were realised on account of fees of 51 refineries and 1,353 crude saltpetre licenses issued in the Punjab. The refineries were all worked during the year. The outturn of refined salt-petre in the province was 148,315 maunds. No purified salt was educed in refineries. The quantity of *sitta* (impure salt) educed amounted to 117,952 maunds, while 3,453 maunds of *sitta* were excised and 169,120 maunds destroyed.

41.—Stamp Revenue.

Income.

336. The total receipts under the Stamps and Court Fees Acts amounted to Rs. 81·74 lakhs as compared with Rs. 77·93 lakhs in 1919-20.

Judicial stamps.

337. The receipts from the sale of court-fees or judicial stamps show an increase of Rs. 6·22 lakhs over the figures for the preceding year. The reasons for this increase are the doubling of process fee (*talbana*) in munsifs' courts, increase of the fees for inspection of records, larger institutions of civil suits due to the return of military men from service overseas, and the institution of suits of extraordinarily high value in certain districts. In Montgomery the increase is ascribed to colony development, in Lahore to stamps of high value having been sold for probate cases and in Amritsar to an increase in litigation in consequence of breaches of contracts for sales of house property.

Non-judicial stamps.

338. The sale of non-judicial stamps contributed Rs. 31·28 against Rs. 33·71 lakhs in the previous year, or a decrease of Rs. 2·43 lakhs. The largest decrease was on account of impressed sheets. Most districts report small increases in the sale of impressed stamps, but the falling-off in the total for the province is mainly due to the districts of Lahore and Amritsar reporting decreases of over Rs. 1¼ lakhs and Rs. 2 lakhs, respectively, on the previous year's figures. In both these districts the figures of the previous year represented an inflated demand on account of several transactions for sale of landed property, and the decrease in the year under report is, therefore, due to the return of normal conditions. The increase in the sale of *hundis* occurred mainly in the Amritsar district.

Miscellaneous.

339. The increase of Rs. 24,142 and Rs. 44,475 in the sales respectively of foreign bill and share transfer stamps was due to large purchases by a bank at Lahore and the sale of foreign bill stamps of Rs. 19,000 at Amritsar. The noticeable decrease of Rs. 89,903 appearing under Legal Practitioners's tamps represents a return to normal figures after the unusually large receipts of the year 1919-20, when the formation of the High Court resulted in the admission on payment of increased fees of former pleaders of the Chief Court as vakils

of the High Court. During the year a committee was appointed under the orders of Government to enquire into and submit proposals for increasing stamp duties and court-fees.

Expenditure.

340. The expenditure of the department rose from Rs. 3·13 lakhs to Rs. 3·53 lakhs. This latter figure includes a sum of Rs. 1·72 lakhs on account of refunds, of which Rs. 46,432 represents the cost of stamps and plain paper supplied from the central stores.

42.—Income-tax.

Collections.

341. Collections rose from Rs. 43·18 lakhs to Rs. 48·91 lakhs. This sum includes Rs. 16·07 lakhs collected during 1920-21 on account of previous years. All the uncollected arrears pertaining to years prior to 1920-21, however, have not yet been collected and a sum of Rs. 1 lakh is still outstanding on this account. The demand of the year amounted roughly to Rs. 58 lakhs, and out of this Rs. 25·13 lakhs remained uncollected. The total amount outstanding on 31st March 1921 reached the record figure of Rs. 26·24 lakhs. Adjustments under section 19 resulted in recoveries amounting to Rs. 4·42 lakhs. The procedure relating to adjustments is reported to have proved cumbrous in practice and the assessee, for whose benefit it was primarily meant, appreciates it least of all.

Income assessed.

342. Excluding salaries, the total income on which tax was collected amounted to nearly Rs. 10¼ crores. Three crores of this income belonged to assessees whose individual income ranged between Rs. 3,500 and Rs. 7,499 per annum. Seventy-seven assessees in all paid taxes on incomes above Rs. 50,000 and the total amount collected from them as tax amounted to Rs. 7·07 lakhs. This amount is slightly less than one-fifth of the total collections of the year's assessments. Fifteen out of these seventy-seven are large companies, and these alone were responsible for an assessment of nearly Rs. 3¾ lakhs. The remaining 62 assessees thus paid only Rs. 3¼ lakhs.

Working of the Act.

343. The Act was understood somewhat better than in the previous year, but the main difficulty about the proper filling of returns continued. The simplified form of return for rural assessees proved useful. The number of special

income-tax officers was increased from 6 to 11, those in Lahore, Amritsar and Ferozepore being also in charge of the excise work of those districts. The assessment made by these 11 agencies secured on the whole an increase of Rs. 11·83 lakhs.

43.—Forest Revenue.

General financial results.

344. The revenue and expenditure were classified as follows :—

Revenue.	*Lakhs.*	*Expenditure.*	*Lakhs.*
I.—Timber and other produce removed from the forests by Government agency ...	22·29	A.—Extension, constitution, improvement, and exploitation of the forest property ...	27·39
II.—Timber and other produce removed from the forests by consumers or purchasers	9·12	B.—Administrative, executive and protective charges ...	8·30
			35·69
III.—Drift and waif wood and confiscated forest produce ...	6·63	Cash surplus ...	2·35
Total ...	38 04	Total ...	38·04

The decrease in revenue is mainly due to the shorter period under review, but other contributing factors were reduced sales of *shisham*, a smaller demand for *chir* and bamboos, and general trade depression, while the process of changing the system of sales of standing trees to that of departmental working in Kulu is also responsible for the temporary drop. The large increase in expenditure is due to the general expansion of forest operations, considerable additional expenditure on the Changa Manga tramway, roads and buildings, revision of pay and travelling allowance rates and the increase of executive and clerical staff.

Profits.

345. The true results of the year's working show a surplus of Rs. 18·56 lakhs :—

	Lakhs.
Increase in value of stock	4·96
Capital expenditure less interest ...	4·99
Increase in outstandings of revenue ...	·80
Total ...	10·75
Less cash deficit	·17
	10·58
Timber afloat	7·98
True surplus ...	18·56

44.—Provincial Revenue and Expenditure.

Balance sheets.

346. As 1920-21 was the last year of the pre-reforms era, and from the 1st of April, 1921, a new financial settlement on radically new lines came into being, it may be useful to give a brief outline of the financial history of the province in the previous few years. The following table exhibits the Provincial revenue and expenditure and the closing balance for each year from 1914-15 to 1920-21 :—

(Figures in thousands of rupees.)

Year.	Revenue.	Expenditure.	Closing balance.
	Rs.	Rs.	Rs.
1914-15	4,94,76	4,76,06	52,21
1915-16	4,88,51	4,77,18	63,59
1916-17	5,17,69	4,58,49	1,22,75
1917-18	5,50,30	4,78,53	1,94,52
1918-19	5,73,76	5,37,33	2,30,95
1919-20	6,60,88	6,31,90	2,59,93
1920-21	6,75,58	7,47,86	1,87,36

In these seven years, the revenue of the province has improved by nearly two crores per annum, or 42 per cent., despite the fact that 1920-21 was a bad year. The years 1914-15 to 1918-19 were years of enforced economy on account of war conditions with the result that the provincial balances increased from Rs. 52 lakhs to Rs. 231 lakhs. 1919-20 showed a further increase in the closing balance to Rs. 260 lakhs. Of this a part can be attributed to the exceptional and unforeseen increase in the receipts of that year, totalling Rs. 661 lakhs. 1920-21, on the other hand, has shown a reduction in the closing balance of Rs. 73 lakhs, as compared with the previous year.

Provincial share of receipts.

347. The following table shows the Provincial share of the receipts under the principal heads of Revenue since 1914-15 :—

(Figures in lakhs of rupees.)

Year.	Land Revenue.	Stamps.	Excise.	Forest.	Irrigation Public Works Department (Major Works).	
					Direct receipts	Indirect receipts.
1914-15 ...	1,42	27	35	14 (5·5)	1,22	51
1915-16 ...	1,40	29	35	17 (8·0)	1,19	54
1916-17 ...	1,43	30	38	17 (7·5)	1,39	60
1917-18 ...	1,56	30	43	21 (9·6)	1,36	53
1918-19 ...	1,43	30	53	22 (3·5)	1,31	58
1919-20 ...	1,56	39	65	38 (14·3)	1,62	53
1920-21 ...	1,51	41	74	38 (2·3)	1,67	57

The receipts shown under each head mentioned above (except Forests) are half the total receipts under that head, the other half being "Imperial receipts."

In the column headed "Forests" are shown in bracket the net receipt after deducting Forest expenditure.

These figures illustrate the large expansion which has taken place in—

Stamp revenue (owing to increase in rates and expansion of trade),

Excise revenue (owing to general prosperity and the devaluation of money), and

Irrigation (owing to the development of irrigation); but

Land revenue has proved a very inelastic source of revenue, the increase in six years being only some six per cent., although the depreciation in the value of money has very much exceeded the latter figure.

These Land Revenue receipts include large amounts of a non-recurring nature due to the sale of Government estates and the sale of waste land, these receipts being almost entirely on account of land made available for cultivation in the Canal Colonies. Of a similar nature are the receipts from the sale-proceeds of town sites (through Imperial assignment) due to the creation of new towns in the colony areas. All these receipts, due to the expansion of canals, are of a capital nature and ought to be reserved for capital expenditure. The following table shows the Provincial share of the receipts for a series of years. The Imperial Government has received as its share amounts equal to those tabled below. The figures show that the Provincial revenues have benefited to the extent of Rs. 149 lakhs in the last seven years through the sale of such lands and sites :—

(Figures in thousands of rupees.)

Year.	Sale of Government estates.	Sale of waste land.	Sale-proceeds of town sites.
1914-15	4,11	15,09	19
1915-16	3,34	12,30	1,52
1916-17	3,28	11,39	3,80
1917-18	3,70	13,48	1,76
1918-19	4,53	15,22	2,14
1919-20	6,74	16,06	10,24
1920-21	3,87	10,15	5,32

Provincial expenditure.

348. The following table shows the Provincial expenditure under the main heads during the last seven years. It indicates the extent to which war economies operated to lower expenditure, and also how much increased prices and increased salaries together with pre-war expansion operated last year to raise the totals :—

(Figures in lakhs of rupees.)

Year.	Land Revenue.	General Administration.	Law.	Jails.	Police.	Education.	Medical and Sanitary.	Civil Works, Public Works Department.	Irrigation Working Expenses, Public Works Department.
1914-15 ...	50	13	46	16	62	42	23	70	44
1915-16 ...	49	12	47	18	64	44	20	52	52
1916-17 ...	47	12	45	18	65	43	16	39	52
1917-18 ...	47	12	43	19	66	44	19	47	52
1918-19 ...	49	12	46	23	71	54	20	62	51
1919-20 ...	58	16	64	24	85	57	24	90	58
1920-21 ...	74	21	64	24	96	73	32	1.10	66

The following causes are responsible for increases under practically every head during 1920-21 as compared with 1919-20 :—

(1) The grant of a temporary allowance originally sanctioned by the Government of India with effect from October 1st, 1919, and in force till the end of September 1920, after which revision of pay of most non-gazetted establishments took place at a cost of about one crore per annum over previous pay and temporary allowance. The pay of several gazetted establishments, which were previously not in receipt of temporary allowance, was also revised during the year.

(2) The high prices of food-grains and the high rate at which grain compensation allowance was drawn.

(3) Increased contingent charges necessitated by the increase in rates of travelling and horse allowances, and general increase in prices.

(4) The return from military duty of many officers.

Apart from these, reasons for increases have been explained under various heads dealt with in previous paragraphs of the Report, but the following items may be mentioned. The reform scheme, including pay of Members, Ministers and other additional charges, is responsible for about Rs. 1½ lakhs of the increase under "General Administration." The transfer of the Medical School to Amritsar, the return of some of the staff from military service and additional itinerating dispensaries have assisted in the increase under "Medical." Under "Sanitation" a lakh was spent on the newly-formed Drainage Board, and some other expansion took place. The increase in Civil Works was to a certain extent due to the return to normal conditions after the war-time restrictions.

45.—Local Funds.

Income.

349. The gross income of district boards was Rs. 112·73 lakhs which exceeded by little over Rs. 5 lakhs that of the previous year and was the highest figure yet attained. Rather over Rs. 43½ lakhs of the increase was contributed by the local rate, the balance being, as usual, mainly the result of Government grants.

Expenditure.

350. The expenditure rose by Rs. 23·85 lakhs to Rs. 122·31 lakhs, thus exceeding income by nearly 10 lakhs. Variations in income and expenditure under the more important heads have already been discussed in section 24.

46.—Municipal Funds.

Income.

351. The total income of municipalities in 1920-21 amounted to Rs. 131·99 lakhs. The increase (about Rs. 17½ lakhs) is accounted for partly by the increased receipts from octroi already referred to in section 25 and from terminal tax and also by Government grants. The incidence of taxation per head of population was Rs. 4-2-9.

Expenditure.

352. The total expenditure for the year was Rs. 130·92 lakhs, of which Public Instruction and Roads accounted for Rs. 13·50 lakhs and Rs. 11·21 lakhs, respectively. The cost of collection of taxes was Rs. 6·67 lakhs.

CHAPTER VI.

Vital Statistics and Medical Service.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below:—

PROVINCIAL REPORTS.

Census.—Report on the Census of the Punjab, 1911, by Rai Bahadur Pandit Hari Kishan Kaul, C.I.E.

Births and Deaths—Sanitation. { Report on the Sanitary Administration of the Punjab and Proceedings of Sanitary Board for the year 1920.

Emigration.—Census Report as above.

Medical Relief — { Triennial Report of the working of the Charitable Dispensaries in the Punjab for the years 1918—20. Report on the working of the Punjab Lunatic Asylum for the year 1920.

Vaccination.—Report on Vaccination in the Punjab for the year 1920-21.

PUBLICATION OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume III—Public Health.

47.—Details of Census.

[*Vide* pages 157—67 of the Administration Report for the year 1911-12.]

48.—Births and Deaths.

General.

353. The population of the Punjab to which the statistics in this report relate is that of the census of 19.1, namely, 19,337,146 (10,608,101 males and 8,729,045 females); but a rough estimate of the population for the year under report, which has been prepared by adding births and subtracting deaths since last census report, works out to 20,713,647 (11,374,675 males and 9,338,972 females). Calculated on this estimated population the birth rate is 40·1 or 2·8 *per mille* less than the rate calculated on the census figures; similarly, the death rate, 21·8, is less by 6·8. In individual districts the rates calculated on the census figures are in excess in all the districts except Gurgaon, Simla and Dera Ghazi Khan, these being districts in which

the estimated population showed a reduction as compared with the census figures both in the previous as well as in the year under report. The year 1920 was a healthy year. The death rate (28·6) was low and only slightly in excess of that of the previous year. As usual "fevers" accounted for the highest death rate and the rate is in excess of that for 1919. The rates for dysentery and diarrhœa, respiratory diseases and all other causes are also slightly in excess of those for last year. Cholera, small-pox and plague show an appreciable reduction. The death rate under injuries remained practically stationary. The birth rate is higher than that recorded for the two previous years.

Births.

354. The total number of births registered this year was 829,803, of which 437,257 were males and 392,546 females, the respective rates being 42·9, 22·6 and 20·3 *per mille*. The total rate shows an increase of 2·6 as compared with the previous year but is identical with the average for the previous five years. A comparison by districts with the quinquennial average shows that in the Lahore, the Rawalpindi and the Multan Divisions the rate in 1920 was in excess. In the remaining two divisions of the province the rate in 1920 was less than the average for the previous five years except in the districts of Simla in the Ambala Division and Kangra in the Jullundur Division, where it was in excess. Compared with the previous year the rate was greater in the whole of the Jullundur, Lahore and Rawalpindi Divisions. In the Ambala and Multan Divisions it was in defect in the districts of Karnal, Ambala, Jhang and Multan. The birth rate for 1920 is satisfactory as showing a gradual return to normal conditions after the ravages of war and pestilence. In accordance with the biological theory of reaction it should steadily increase to a figure in excess of pre-war rates. The birth rate in the 39 principal towns was 44·5 *per mille* as against 45·6 in 1919 and 44·7, the average for the previous five years. The rates in the three largest towns were—Amritsar 46, Multan 40 and Lahore 39, which are lower than last year's in each case.

Deaths.

355. The total number of deaths registered during the year was 552,073, of which 298,444 were males and 253,629 females, the rates being 28·6, 28·1 and 29·1 *per mille*. The corresponding rates for the previous year were nearly the same, but the averages for the last five years were 43·0, 40·3 and 46·0. Of the provincial

death rate 19·2 was attributable to fevers, 5·0 to all other causes, 2·7 to respiratory diseases, 0·5 to small-pox, dysentery and diarrhœa, and 0·3, 0·3 and 0·01 to plague, injuries and cholera, respectively. Compared with the quinquennial average the total death rate in 1920 showed a decrease of 14·4 *per mille* and an increase of 0·3 over the ratio for the previous year. The decrease as compared with the quinquennial average is due to the lessened incidence of "fevers," plague and infectious diseases. The slight increase as compared with 1919 is due to the greater incidence of influenza and relapsing fever, coupled with a widespread epidemic of measles in the early part of the year.

Monthly variations in health.

356. The highest death rates were recorded in May and June, 3·18 and 3·01 *per mille*, respectively. These rates were followed by 2·52 in December and 2·44 in January and in the other months the rates varied from 1·93 in August to 2·33 in April. August was the healthiest month, closely followed by October, February and November. The quarterly death rate was January—March 6·87, April—June 8·52, July—September 6·41, October—December 6·76. The highest death rate was in the second quarter, the period during which relapsing fever is at its height, and the rate is a fair indication of the importance of that disease. The rate was also swollen by the co-incident epidemic of measles. In an ordinary year the last quarter, when the effects of malaria become evident, is usually the worst.

Incidence of mortality.

357. The mortality of infants under one year of age rose from 184·15 and 170·10 for males and females, respectively, to 191·85 and 173·40 *per mille*. Calculated on the number of births recorded during the year the rates work out at 186·32 for males and 178·65 for females, as against 189·33 and 188·04 in the preceding year. The rates of mortality among persons of 60 years' age and upwards and of children between the ages of one and five show a slight increase. Between the ages of five and forty the mortality of females exceeded that of males.

Classification of deaths by communities.

358. The death rate among Indian Christians was 34·66 for males and 32·64 for females. The corresponding rate for Hindus was 28·77 and 31·85, for Muhammadans 27·52 and 26·87, and for other classes 28·31 and 24·00.

Urban and rural death rates.

359. The urban rate, 32·75, exceeded the rural rate, 28·12, under all the heads of mortality except small-pox and fevers, under which heads the recorded excess over urban rates was 0·20 and 3·41, respectively.

Cholera.

360. The mortality from cholera during 1920 was the lowest on record since 1899 and amounted to 138, as compared with 8,561 deaths in the previous year, a rate of 0·01 *per mille* as compared with 0·44 in 1919 and 0·26, the average for the previous five years. Deaths were recorded in 20 out of the 29 districts, but with the exception of a few localities the disease nowhere appeared in an epidemic form. The largest number was recorded in Lahore, *viz.*, 29, next in order coming Hissar with 21, Kangra with 13, and Hoshiarpur with 10. The province was practically free of the disease during the first quarter of the year, while in the second quarter only one death was reported from Mianwali and two each from Gujranwala and Gurgaon. It was not till the third quarter of the year that the mortality showed signs of increase, the number of deaths during that quarter amounting to 132. Thereafter the province was again free of cholera with the exception of one suspected case in Gujrat. Out of the 138 deaths recorded from cholera 63 were directly due to the importation of infection from Hardwar.

Small-pox.

361. Nine thousand three hundred and nineteen deaths were registered from small-pox, giving a ratio of 0·48 *per mille*, which was 0·23 higher than the mean ratio during the preceding quinquennium and 0·31 lower than the rate for the previous year. The highest death rate from small-pox was recorded in Montgomery (3·92), Shahpur coming next with 1·87, while the lowest rate recorded was 0·01 in Rohtak and Kangra. Of the deaths registered under this head 2,583 were of children under one year of age and 4,750 of children from one to ten years of age. The death rate from small-pox in urban areas was 0·30 and 0·50 in rural circles, and the average rate for towns in which the Compulsory Vaccination Act is in force was 0·27, as against 1·14 in the previous year.

Plague.

362. There were altogether 7,972 deaths in the Punjab from plague in the year under report, 6,153 in British districts and 1,819 in Native States. On the whole it was a mild year in comparison with

1919, when the total mortality from plague amounted to 12,683. The mortality for the districts most infected was Rohtak 667, Gujranwala 1,565, Jhelum 363, Rawalpindi 220, Attock 1,492, Lyallpur 460, and Multan 372. The districts of Gurgaon, Ambala, Simla, Kangra, Hoshiarpur, Jullundur, Amritsar and Gurdaspur remained free of infection throughout the year. The majority of cases were of the bubonic type, though pneumonic and septicæmic cases were also reported from Montgomery, Shahpur and Attock districts. Systematic rat destruction was continued.

Fevers.

363. There were 371,432 deaths registered under the head of fevers during the year under report as against 365,045 in 1919. The number of deaths from fevers was highest in May (42,350) and lowest in August (24,536). The fever rate worked out at 19·21 *per mille* of population, as compared with 18·88 in the preceding year and 29·20 for the quinquennium. All the districts of the Ambala, Jullundur and Lahore Divisions, except Hissar, Gurgaon, Ferozepore, Gujranwala and Sheikhupura, recorded a death rate higher than that of the previous year, while the remaining districts except Rawalpindi showed a decrease. The urban and rural death rates from fevers were 16·12 and 19·53, slightly higher than in the previous year, but well below the quinquennial average.

Influenza.

364. Influenza was prevalent in a mild form in the districts of Hissar, Karnal, Ambala, Simla, Jhelum, Rawalpindi, Attock and Muzaffargarh. The districts in which relapsing fever was prevalent were Hissar, Ambala, Amritsar and Karnal.

Other diseases.

365. The deaths from dysentery and diarrhœa were 9,185, as against 8,639 in the previous year, and those for respiratory diseases amounted to 52,770, the rates of 0·47 *per mille* for the former and 2·73 for the latter showing an increase of 0·02 and 0·77 over the previous year. The total number of deaths registered under "all other causes" amounted to 96,602 or a rate of 5·00 *per mille*, an excess of 0·10 over the previous year's rate. The rate for the preceding year and the average for the preceding five years were 4·90 and 6·10, respectively.

49.—Emigration and Immigration.

366. There is nothing of special interest to report under this section.

50.—Medical Relief.

Dispensaries.

367. During the year 3 dispensaries were closed and 39 new ones opened, the number working at the close of the year being 540. Special grants of Rs. 1·5 lakhs for opening new dispensaries, and Rs. 69,000 for equipping and improving existing dispensaries, were allotted to local bodies and societies before the end of the last financial year.

Patients.

368. The total number of in and out-patients treated was 4,609,646, as compared with 48,30,911 in 1919, the decline being attributed to the healthiness of the year. In-patients aggregated 96,783 against 93,141 and out-patients 4,512,863 against 4,737,770 in 1919. The number of patients of different classes treated in public, local fund, and private aided institutions in the Punjab during 1920 was—

	(In thousands.)
Europeans and Anglo-Indians ...	6
Hindus	2,043
Muhammadans	2,290
Others	269

Statistics of diseases.

369. The principal diseases for which patients were treated in 1920 are shown below :—

	Patients.
Cholera	127
Dysentery	52,082
Enteric fever	3,079
Malaria	506,745
Rheumatic fever and rheumatism ...	81,800
Small-pox	467
Other tubercular diseases	5,181
Diseases of the eye	1,090,135
Diseases of the ear	349,676
Diseases of the nose	28,384
Dyspepsia	167,557
Diarrhœa	46,059
All other diseases of the digestive system ...	520,864
Ulcers	365,774
Other diseases of the skin	367,099
Injuries (general and local)	214,838

Departmental institutions.

370. The cases treated in Police, Canal, Railway and other State special hospitals and dispensaries numbered 650,785 (7,528 in-patients and 643,257 out-patients) as compared with a total of 646,279 in 1919.

Non-aided dispensaries.

371. At the private non-aided dispensaries 73,864 patients were treated and 2,867 operations were performed, against 82,905 patients and 3,949 operations in the preceding year.

Surgery.

372. The total number of surgical operations performed was 250,568 as compared with 261,904 in 1919. The selected operations which totalled 44,760 included 19,412 removals of lens for cataract, of which 95 per cent. were successful.

Income and expenditure.

373. The total income of dispensaries of Classes I, III and IV was Rs. 26 lakhs against Rs. 20 lakhs in 1919. Government, local fund and municipal contributions amounted to Rs. 3·41 lakhs, Rs. 9·08 lakhs and Rs 7·92 lakhs, respectively, while interest on investments, subscriptions and miscellaneous receipts amounted to a total of Rs. 3·58 lakhs. The total expenditure, including a sum of Rs. 2,941 which was invested, amounted to Rs. 2·41 lakhs.

Mayo Hospital.

374. The total expenditure from all sources during the year amounted to Rs. 3·24 lakhs, compared with Rs. 1·99 lakhs during 1919, more than three-quarters being met from Government funds.

Female medical aid and education.

375. The dearth of trained workers is still a formidable problem, and has accounted for the fact that no notable improvement has been effected in the arrangements for female medical relief. Candidates do not seem to evince any keen desire to accept positions as women sub-assistant surgeons and as compounders. To counteract this seeming apathy on the part of young women, and to provide some sort of attraction, the Local Government and certain municipal committees and district boards have recently sanctioned the grant of stipends of Rs 10 and Rs. 15 per mensem to girls in the 4th and 5th High Classes, respectively, provided that they enter the M. P. L. class of the Punjab Medical School for Women at Ludhiana on passing the Entrance Examination. It is hoped that this expedient will induce more women

to join the medical profession and serve Government and thus reinforce the sadly depleted ranks of the trained female medical workers. The Provincial Service for women sub-assistant surgeons did not attract many; 7 out of the 18 sub-assistant surgeons employed decided to join the new service, the rest being content to continue their service under local bodies. Classes for the training of *dais* and nurse *dais* were conducted as usual at Bhiwani, Ambala, Ferozepore, Ludhiana, Lahore, Jandiala, Asrapur and Muzaffargarh, assisted partly by the Victoria Memorial Scholarship Fund.

Punjab Lunatic Asylum.

376. The daily average population of the Asylum was 863, as compared with 875 in 1919, the capacity of the Asylum being for 862. The maximum number of lunatics confined in any one night was 901. The total number discharged was 285; 109 died, leaving 854 patients under treatment at the close of the year. The percentage of cured cases to the daily average strength fell from 13 to 12 owing to the decline in the admission of military insanes. The daily average sick fell from 91 to 65, but the death rate rose from 10·5 to 13. Influenza, which again appeared in epidemic form and accounted for thirteen deaths, was confined chiefly to the female section of the Asylum. A site has now been selected for an asylum for criminal lunatics. Two non-criminal insanes escaped whilst employed on the Asylum farm—one of whom has hitherto avoided capture.

51.—Sanitation.

Village sanitation.

377. Although a few attempts have been made to improve village sanitation, they have not met with any great success. The chief obstacle to progress is the attitude of the villagers who evince scarcely any desire to change their habits and customs, and unless this barrier can be broken down no real progress will be possible. Out of an income of Rs. 98·27 lakhs the municipalities spent Rs. 34·42 lakhs on sanitation and vaccination. District boards spent Rs. 1·48 lakhs only out of an income of Rs. 107·69 lakhs on the same objects.

Reorganisation of sanitary policy.

378. On March 1st, the Plague and Malaria Departments were transferred to the Sanitary Department by the Inspector-General of Civil Hospitals. These departments will continue

as separate budget units until the complete reorganisation scheme has been sanctioned by the Secretary of State. During the year district health officers were appointed at Gurgaon, Jullundur and Kangra under the scheme for the reorganisation of rural sanitation.

State Faculty of Public Health.

397. After much discussion this long-cherished scheme finally materialised and the first meeting of the Faculty was held in January 1921. The Faculty consists of the following members :— *Officials*—the Sanitary Commissioner (President), the Chemical Examiner, the Bacteriologist, the Sanitary Engineer; *nominated Indian Members*—Dr. A. B. Arora, Health Officer, Lahore, Dr. S. N. Rozdon, Health Officer, Amritsar, Dr. G. C. Sahgal, Health Officer, Jullundur, Dr. M. J. Thakur, Health Officer, Gurgaon district, Dr. Allah Jawaya, Medical Practitioner, Lahore, R. B. Dr. Hira Lal, Medical Practitioner, Lahore. With the aid of the Faculty it will now be possible to give to medical graduates both the training and qualification which formerly required at least a year's residence in England. Next year it may be possible to record very satisfactory progress in the work of engaging qualified health officers.

Education Bureau.

380. Proposals for the creation of a Bureau, having for its object the education of the general public in elementary hygiene, was sanctioned. A whole-time photographer has now been added to the department and work on the preparation of lantern slides from local conditions to illustrate popular lectures is well advanced. When a sufficient number of standard lectures has been prepared, it will be possible to prepare sets of slides for individual districts dealing with matters of special local interest. The Bureau has a great future before it and as work progresses proposals for its extension will be put forward.

Sanitary Board.

381. The Sanitary Board met ten times during the year, 4 times in Simla and 6 times in Lahore. A town-planning committee under the chairmanship of Sir John Maynard was also created during the year. A chemist was appointed in connection with the investigation of the chemical nature of well-water supplies in the Punjab. The balance of Rs. 3·42 lakhs was fully utilized and out of an additional grant of Rs. 4 lakhs a sum of Rs 2·57 lakhs was spent, leaving a balance of Rs. 1·43 lakhs.

The number of non-official Indian members was raised from 2 to 5 and the tenure of office of nominated members fixed at 3 years. The Board made considerable progress in the policy of directing technical sanitary policy. The problem of the ever-open tap is one with which all administrations are faced and the Board adopted the policy of enforcing compulsory metering of private connections, and all grants-in-aid for water supply purposes are now made on condition that this measure is carried out. An enquiry into the expenditure of grants-in-aid revealed many disquieting features and the Board finally decided to adopt the principle of auditing its grants. The systematic investigation of rural water supplies was taken up by the Board and a chemist was placed on special duty under the Sanitary Commissioner for this purpose. Sanction was also obtained to the employment of a geologist, whose duty in the first instance was to examine areas where salt deposits restrict the available water supply. Already valuable results, in the sense that a possible practical remedy has been discovered, have been obtained.

52.—Vaccination.

Expenditure.

382. The total cost of the department (including the Vaccine Institute) during 1920-21 amounted to Rs. 2·09 lakhs, an increase of Rs. ·46 lakhs over last year.

Operations.

383. The average cost of each successful vaccination was Re. 0-4-5 against Re. 0-3-5 in the previous year. The total number of operations performed by all establishments during the year 1920-21 amounted to 916,000, showing a decrease of 12,822. During the year there was an increase in primary vaccination and a decrease in re-vaccination. The decrease in re-vaccination is generally attributed partly to the prevalence of small-pox in a less virulent form and partly in some districts to the non-co operation movement. The percentage of success in primary vaccination was 96·41 as against 97·95 in the previous year, while in the case of re-vaccination it was 72·65 as compared with 76·18. The ratio of persons successfully vaccinated by the district vaccination staff was 37·09 *per mille* of population, as against 37·05 in the previous year. 86 per cent. of the total number of children under one year of age available for operation were successfully vaccinated in the towns in which the Vaccination Act is in force, as against 48 per cent. in those towns in which it is not in force

Punjab Vaccine Institute.

384. The total number of one gramme tubes of vaccine issued by the Punjab Vaccine Institute during the year was 45,637 as compared with 49,507 in the year previous, and the decrease in the quantity issued is chiefly due to a smaller demand for the lymph from places outside the Punjab. Of the 45,687 tubes despatched, results were received in the case of 32,024, showing that 640,070 primary and 216,366 re-vaccinations were performed, with an insertion success of 94·94 per cent. in primary and 73 38 per cent. in re-vaccination, or less than in the previous year. With a view to meeting the enhanced cost of production, the price of a gramme of vaccine was raised from twelve annas to one rupee with effect from 1st April 1920.

Training classes.

385. Ten classes for training of vaccinators in the technique of the manufacture, care and preservation of vaccine were held this year at the Punjab Vaccine Institute, Lahore, between November and March, to which vaccinators from 12 districts were admitted.

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CHAPTER VII.

Instruction.

DETAILED information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Education.—(1) Report on the Progress of Education for the year 1920-21.

(2) Report on the operations of the Department of Agriculture, Punjab, for the year ending 30th June 1921.

(3) Annual Report on the Punjab Veterinary College and the Civil Veterinary Department, Punjab, for the year 1920-21.

Arts and Sciences.—Report on the working of the Lahore Museum for the year 1920-21.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Education, Literature and Press.—Statistics of British India, Volume V, Education.

Statistical Abstracts for British India, Volume IV, Administrative, Judicial, and Local Self-Government.

53.—General System of Public Instruction.

[*Vide* pages 173—184 of the Administration Report for 1911-12.]

54.—Education.

Introductory.

386. Education is in the main a transferred subject, and therefore comes under the control of a minister who is responsible to the Punjab Legislative Council; and the latter body controls the finance. The first Minister for Education is the Hon'ble Khan Bahadur Mian Fazl-i-Husain. European education, however, is under the charge of the Hon'ble Sir John Maynard. The Minister for Education took an early opportunity of explaining to the Council what were to be the watchwords of his policy: "Government intends to pursue an educational policy which is national, economical and makes for efficiency."

General.

387. The number of public educational institutions increased by 377 to 7,559 and the number of scholars by 36,565 to 590,837 (including 61,840 girl pupils). Private institutions now provide instruction for 56,152 scholars. Imperial and provincial revenues provided Rs. 85 lakhs towards expenditure on education, while municipal and district funds supplied nearly Rs. 34 lakhs. The income from fees rose by over Rs. 3½ lakhs to Rs 34·88 lakhs. Government made grants of Rs. 24·20 lakhs to district boards and of Rs. 2·38 to municipalities.

Controlling agencies.

388. Colonel W. T. Wright, M.A., who had held the post of Director for one year, retired from service in December 1920 and Mr. G. Anderson succeeded him in that capacity. Three new appointments and the officers holding them, whether substantively or temporarily, are: (*i*) Registrar of Departmental Examinations, Lala Hari Das, M.A., formerly Inspector of Schools, (*ii*) Inspector of Training Institutions, Lala Ram Chandra, and (*iii*) Inspector of Vernacular Education, Sayad Maqbul Shah, B.A., I.E.S., formerly Inspector of Schools, Multan Division. Each district now has its own inspector, a member of the Punjab Educational Service, who is responsible for the general inspecting and controlling duties of his area. Under the district inspector are assistant district inspectors, each in charge of a specified part of the district. The divisional inspector under the new scheme should be more free from routine work than before, and be able to devote more time to questions of policy and of expansion within his jurisdiction. He has been given a specialist divisional staff to assist him in the task of inspection in special subjects, but has lost the former staff of assistant inspectors. The whole matter was examined in detail at the Conference of inspecting officers held last April, and certain modifications were recommended.

Educational Services.

389. The cadre of the Indian Educational Service increased in numerical strength through promotions from the Punjab Educational Service. There are now 10 and 22 Indian members and European members, respectively, in the service. The revision of the Punjab Educational Service took effect from April 1st, 1920. The strength of the

cadre is now six posts in the selection grade (Rs. 650—30—800); and 68 posts on the ordinary time-scale (Rs. 250—25—500—25—600). The Subordinate Educational Service was also revised, and the new terms came into force on October 1st, 1920. This service is graded, each grade in the new scheme roughly corresponding in pay with that of the next higher grade in the old. Three assistant inspectresses were appointed, Miss M. Dutton, posted as assistant to the Chief Inspectress, Lahore ; Mrs. Ponsonby, B.A., B.T., to Rawalpindi, and Miss Uppal to Jullundur.

District boards, municipalities and private agencies.

390. The expenditure of district boards from their own resources was Rs. 23·62 lakhs, as compared with Rs. 17·28 lakhs in the previous year, while that of municipal boards was Rs. 9·31 lakhs, an increase of Rs. 2 37 lakhs over last year's figures. Expenditure from provincial revenues was Rs. 22·47 lakhs. Private agencies appear to be distinctly more active than public bodies. In Rohtak a new and flourishing Jat Heroes Memorial High School was started when the Jat High School was 'nationalised.' In the Jullundur division the Arya Samaj led the way.

Secondary Education (Boys)—(i) Statistics.

391. Secondary schools of all kinds rose from 828 to 969, an increase of 17 per cent., while the number of pupils increased from 163,899 to 188,529, or by 15 per cent. Vernacular middle schools were 615 with 80,978 scholars, as against 491 in 1919-20, with 63,104 scholars. Anglo-vernacular middle schools increased from 170 to 171, the number of pupils rising from 36,330 to 36,474. High schools rose from 167 to 183 in number and their pupils increased from 64,465 to 71,077. Expenditure from all sources was Rs. 51·69 lakhs as against Rs. 40·91 lakhs last year. Receipts from fees increased from Rs. 16·76 lakhs to Rs. 18·71 lakhs. The income from subscriptions and other private sources went up from Rs. 3·22 lakhs to Rs. 4·99 lakhs. Local funds provided Rs. 5·68 lakhs as against Rs. 3·59 lakhs last year. Provincial revenues assisted to the extent of Rs. 16·41 lakhs as against Rs 12·19 lakhs, while municipal funds brought up the rear with an actual decrease of Rs. 905. The number of teachers in secondary schools for Indians increased from 7,659 to 9,120. There were 6,074 who were trained or certificated, and 999 who possessed a university degree. Untrained teachers were 3,046.

392. Medical inspection has been re-introduced, and physical training is receiving more attention. Among games cricket tends to decline, football and hockey becoming more popular, while the smaller boys play Indian games. Manual training centres are increasing in number. Agriculture as a part of the vernacular middle school curriculum is well established in most parts of the province. Senior vernacular teachers have been deputed to the Agricultural College, Lyallpur, for a special course in agriculture; and a supply of 38 men so trained has been made available. While very few schools were absolutely unaffected by the storm of non-co-operation at the time, very few were ultimately wrecked. Those schools that had good staffs, and particularly those with good hostel superintendents, emerged with least damage.

(ii) General.

393. The total number of primary schools rose from 5,159 to 5,365. Municipal and district board schools increased by 308, but there is a decline of 120 in aided schools. The decrease in aided schools is largely due to the absorption of such institutions into the local board system. The number of pupils rose from 228,257 to 239,187, an increase of 10,930, giving an average of 45 boys to each school. The strength of the teaching staff rose from 9,796 to 9,803, of whom 5,046 were trained men. The total expenditure for the year was Rs. 23·80 lakhs. Provincial revenues provided Rs. 12·73 lakhs (+ Rs. 1·12 lakhs), district funds Rs. 7·34 lakhs (+ Rs. 1·98 lakhs), municipal funds Rs. 1·71 lakhs (+ Rs. 79,392). Expenditure from endowments and subscriptions also increased. On the other hand, fees provided only Rs. 90,455, a decrease of Rs. 8,251. There were 585 Gurmukhi schools and classes in the province, of which 222 are for boys and 366 for girls. The number of pupils in these schools was 25,786 (8,857 boys and 16,929 girls).

Primary Education (Boys)—
(i) Statistics.

394. There has been some improvement in buildings, though in all five divisions the majority of schools are still housed in defective and unsuitable borrowed or rented buildings. All inspectors comment on the value of the new system of physical education which is only just beginning to work its way into the village schools. On the whole, primary education is in a less progressive state than secondary. Though improvements are

(ii) General.

made each year, much has to be done before the standard is really satisfactory. The most important needs are more and better teachers and improved buildings. The five-year programme of expansion is being followed throughout the province, but only the Multan and Jullundur divisions report that the prescribed rate of progress has been maintained. Multan has enforced the Punjab Primary Education Act; Lahore has arranged to enforce it, and some few other cities are considering the question.

Training of teachers—

(*i*) General.

395. Last year 1,361 men and 329 women were being trained for various branches of the profession; in the year under review the numbers rose to 1,663 men and 394 women. Most normal schools impart a knowledge of the system of accounts prevailing in co-operative societies and supply banks. Courses of lectures on elementary hygiene were given and were much appreciated, and physical training received careful attention.

(*ii*) Central Training College.

396. The classification of students in the Central Training College shows 102 Hindus, 61 Muhammadans, 29 Sikhs and 7 Christians, no Muhammadan graduate being refused admission. A class for training teachers of clerical and commercial subjects was instituted, and the first course was given to twelve pupils, all graduates. Experiments were made in the junior anglo-vernacular class, in which students wishing to take Hindi and Punjabi received special instruction in the subjects from competent pupil teachers of the B. T. class. Voluntary classes in physiology, hygiene and also in wood work were opened.

(*iii*) Other institutions.

397. The new manual training room in the Training College, Lyallpur, equipped at a cost of Rs. 2,200, came into use during the year. The Hoshiarpur Training College was opened in September. Furniture and apparatus were provided at a cost of Rs. 10,500. At the close of the year there were 64 students on the rolls, 45 of whom were agriculturists. The enrolment contained 27 Muhammadans, 22 Hindus and 15 Sikhs. The Sanawar Training Class for men had twelve students, three of whom were from the Punjab. The number of new candidates does not seem to rise, the chief reason being that owing to the poor pay and lack of prospects the teaching

profession is unpopular among young men of the European community. At St. Bede's College, Simla, 33 girl students were under training as against 27 in 1919 20. The training class for kindergarten teachers at St. Denys', Murree, has only a small output, but the quality is high.

Professional, technical and special education—

(i) Professional.

398. The University Law College had 503 students at the close of the year, of whom 177 were in preparation for the LL.B. examination, and 289 for the first examination in law. The transfer of the Medical School to Amritsar, which took place in October 1920, made it possible to admit a larger number of students to the King Edward Medical College. Three hundred and seventy-seven students were on the rolls in 1920-21, 101 being "freshmen." The Women's Christian Medical College, Ludhiana, continued its useful work. The proportion of its students coming from the Punjab is increasing. There were 32 students in the Unani Tibbia Classes, 30 being Musalmans and two non-Brahmin Hindus. The Ayurvedic Vidyalaya attached to the Dayanand Anglo-Vedic College, Lahore, had 72 students on its list at the end of the year.

(ii) Technical.

399. The number of students at the Government School of Engineering, Rasul, increased from 95 to 107. The re-organisation of the engineering services, when introduced, will affect this school, for thereafter only one class of subordinates will be recruited into the Public Works Department. In anticipation of this re-organisation, the standard of the course has been raised. The total on the rolls of the Victoria Diamond Jubilee Technical Institute was 67, as compared with 52 in the previous year. The Mayo School of Arts undertook a considerable amount of special work in addition to the ordinary exercises of its various classes. The school is now under the control of the Director of Industries. The quality of the industrial work in the Reformatory School, Delhi, was high. The school stands pre-eminent in this matter among the industrial schools of the province. The number of boys taking an industrial training continues to show a steady decline. The probable cause is that as soon as a boy's labour is worth anything—and this is quickly the case under present conditions—the father withdraws him from school and puts him to work.

400. Two Indian members of the staff of the Punjab Agricultural College, Lyallpur, went to Europe for further studies during the year. The examination for the degree of B.Sc. (Agriculture) was held for the first time. The class for the training of teachers of agriculture continues its useful work, and the third batch of 19 men has been passed out. The number of students in the Government Institute of Commerce, Lahore, rose from 37 to 82, of whom 36 were in the second and 46 in the first year class. The Young Men's Christian Association, Lahore, which has an enrolment of some 500 students, about 95 per cent. being Indians, provides popular classes in typewriting and shorthand.

(iii) Special.

401. The year showed a steady expansion in the education of girls. Last year there were 1,074 schools containing 57,732 scholars. This year there are 1,099 schools with 59,205 scholars. High schools are the same in number as before but the number of pupils in them has decreased by 348. Expenditure has increased by nearly 20 per cent., amounting to Rs. 9·91 lakhs as against Rs. 8·15 lakhs in 1919-20.

Female education—(i) Statistics.

402. The Kinnaird College reports only 33 students on its rolls, but announces most gratifying examination results, ten girls passing the intermediate examination out of an entry of the same number, and five out of seven candidates passing the B.A. A student of this college, Miss L. Fazl, stood first in English in the University and Miss S. Harkishen Lal headed the list of women candidates in Urdu. Queen Mary College contained 91 girls, one of whom passed the matriculation examination and a second the Munshi examination of the Punjab University.

(ii) The Kinnaird and Queen Mary Colleges.

403. There are seven Government Normal Schools for women. That at Lahore, which trains senior vernacular teachers for the province and junior vernacular teachers for the division, contains 107 students, 54 in the senior and 53 in the junior vernacular class. The other six schools, situated at Rawalpindi, Sialkot, Gujranwala, Multan, Jullundur and Ludhiana, at present train only junior vernacular teachers and cater mainly for local needs. With the exception of Rawalpindi,

(iii) Normal schools for women.

where 50 students can be taken, each of these schools accommodates 40 students. Some few private training classes exist in connection with various secondary schools. Of these, that belonging to the American Mission at Sialkot is by far the best.

(iv) General.

404. The Lady Maclagan Government High School for Girls, Lahore, was opened during the year. It occupies a house generously provided by Rai Bahadur Lala Ganga Ram, C.I.E., and is already full to overflowing. The Victoria School, Lahore, is now an anglo-vernacular middle school. At Amritsar the Dayawanti Sudhar Sabha and Oriental High School has been recognised during the year and is doing good work, while the Punjab Association now maintains eight schools in Lahore, having a total strength of 407 pupils. With the exception of the buildings of the Lady Maclagan High School at Lahore, which is the first girls' school to be opened outside the city in pleasant surroundings, and of the Normal School at Multan now working in a very fine building with an enclosed compound, Government schools for girls are still without their own buildings, but are generally well-equipped. Miss Graham, the Inspectress of Domestic Science, held courses in domestic science, which are stated to have been of real value. Cooking, washing, etc., have been introduced into some day-schools and, wherever possible, classes are held in first aid and in sick nursing. Needlework is particularly well taught in many large schools.

Education of Europeans.
(i) Statistics.

405. The number of public schools for Europeans was reduced by two, owing to the exclusion of the boys' and girls' schools belonging to the Lawrence Royal Military School at Sanawar, which, maintained as it is entirely by the Government of India, is now only connected with the Punjab in that it is inspected by the Punjab Education Department and its pupils appear at departmental examinations. The number of scholars in all public and private schools (the latter being unaided and uninspected) was 2,614, of whom 1,232 were boys and 1,382 girls. The teaching staffs comprised 204 masters and mistresses, of whom 122 were trained and 17 held University degrees. Total expenditure (direct and indirect) amounted to Rs. 11·74 lakhs, met in more or less equal proportions from provincial revenues, fees and other sources. Building

grants were reduced by more than Rs. 12,000 and totalled just over half a lakh.

(ii) General.

406. Forty scholarships were awarded to boys and sixty-five to girls. A special gold medal was given to Parshottam Lal, of St. Anthony's School, Lahore, for gaining the top place in the High School Examination and distinction in no less than seven subjects. The scholarship funds received a notable addition through the munificence of Miss Warburton of Kasauli, who founded a scholarship worth Rs. 1,500 in memory of her father, the late John Paul Warburton, C.I.E., of the Indian Police. Vocational training has made a good beginning at Sanawar, and domestic science and needlework are reported to be improving. The Boy Scout movement has been revived and in some girls' schools the girl guides are active. Physical training throughout the schools is excellent.

Education of Special Classes.

407. There was an increase of 17,264 Muhammadan pupils in institutions of all kinds, and of 15,473 in public institutions. On the other hand, there was a decrease of 19 in Arts Colleges, of 30 in the Agricultural College, and of 68 in industrial schools, but a similar decrease occurred in the case of Hindus and Sikhs at those institutions. The Principal of the Aitchison College, Lahore, reports an increase in the average number of boys attending the College, the number on the rolls at the end of the year being 101. Five out of ten candidates passed the Diploma Examination of 1920. The Cadet Corps and the Boy Scouts are noteworthy features among the various activities of the College.

Education of low castes.

408. The number of low caste scholars in ordinary schools has increased and a number of girls of low caste are now at school. On the whole, the tendency towards the breaking down of social barriers, which was noticed in last year's report, has been well maintained.

Text Book Committee.

409. During the year 274 publications were submitted for consideration as against 287 in the previous year, but the number approved (152) was considerably in excess of last year's figures. The committee has eleven maps or books in the press and about twenty other works in preparation.

An editorial staff has been appointed and is at work on the preparation and revision of text-books. Six new editions of the Hindi and Punjabi Reader Series have already been prepared. The patronage of literature fund had a slightly better year. Sixteen books were considered of which one Urdu, one Hindi and two Panjabi were recommended for awards. The standardisation of technical terms in Punjabi, authorised last year, was almost completed. Considerable discontent was shown during the year by certain publishing firms. The questions which need consideration are whether or not it is advisable and practicable to regulate the price of school books, and whether or not an 'open door' should not be permitted to free competition.

55.—Literature and the Press.

Literature.

410. The number of publications registered during the year was 1,848, or 445 more than that of the previous year. The number of smaller books continued to preponderate, the cost of production having immensely increased. Bulky volumes, unless highly priced or in great demand, such as professional works, text-books or works dealing with current political problems, are not likely to bring much profit to the author or publisher. There were more publications in Punjabi than in any other of the Indian languages. Poetry and religion as usual accounted for the largest number of works. The rise under 'politics' and the fall under 'law' would lead one to suppose that political rather than legal literature engaged the attention of the legal profession. Important works included biographical sketches of the political leaders of India and books dealing with the questions of the Khilafat, Indian Home Rule and the Reforms Scheme. On the whole the literary output was superior to that of the preceding year.

Press.

Newspapers.

411. The total number of newspapers and periodicals of all kinds published in the Punjab during the whole or part of the year under report was 277, as against 276 in 1919. The number in existence at the end of the year was 201. Of the 277 newspapers, 178 were in Urdu, 49 in English, 31 in Gurmukhi, 15 in Hindi, 3 bi-lingual and one tri-lingual. The number of daily

newspapers was 36, weekly 76 and monthly 131. The remainder appeared at irregular intervals. Of the 36 daily newspapers, 3 were in English, 4 in Gurmukhi, 1 in Hindi, and the remaining 28 in Urdu, of which one was owned and edited by an Indian Christian, 17 represented the Hindu and 8 the Muhammadan community, and of the remainder one was a war publication and the other the organ of the North-Western Railway Association. 169 newspapers and periodicals were published in Lahore and 47 in Amritsar. Other centres of journalistic activity were Simla (10), the Gurdaspur district (9 , Gujranwala (8), Ferozepore and Rawalpindi (5 each) and Sialkot (4).

Circulation.

412. The combined circulation of the whole Punjab press is estimated at 358,661 copies, as compared with 342,354 and 320,000 in 1919 and 1918, respectively. The following were the more important newspapers in the province :—

English.

1. *Civil and Military Gazette* (English, daily).
2. *Tribune* (Hindu, daily).
3. *Liberal* (Hindu, weekly).
4. *Khalsa Advocate* (Sikh, weekly).
5. *Sikh* (Sikh, weekly).

Vernacular.

(*a*) **Urdu.**

6. *Himala* (Hindu, weekly).
7. *Zemindar* (Muhammadan, daily).
8. *Bande Mataram* (Hindu, dally).
9. *Paisa Akhbar* (Muhammadan, weekly).
10. *Loyal Gazette* (Sikh, weekly).
11. *Partap* (Hindu, daily).
12. *Parkash* (Arya, weekly).
13. *Siyasat* (Muhammadan, daily).
14. *Arya Gazette* (Arya, weekly).
15. *Vakil* (Muhammadan, bi-weekly).
16. *Al-Munir* (Muhammadan, weekly).
17. *Akhbar-i-Am* (Hindu, bi-weekly).

18. *Khalsa Akhbar* (Sikh, weekly).
19. *Rajput Gazette* (Hindu, weekly).
20. *Shanti* (Hindu, daily).
21. *Al-Fazal* (Ahmadiya, bi-weekly).
22. *Ahl-i-Hadis* (Muhammadan, weekly).
23. *Public* (Hindu, daily).
24. *Desh* (Hindu, daily).
25. *Brahman Samachar* (Hindu, weekly).
26. *Aftab** (Muhammadan, daily).
27. *Varat* (Hindu, weekly).
28. *Sadaqat* (Muhammadan, daily).
29. *Kashmiri Magazine* (Muhammadan, weekly).
30. *Watan* (Muhammadan, weekly).
31. *Jat Gazette* (Hindu, weekly).
32. *India** (Sikh, weekly).
33. *Ittifaq** (Muhammadan, daily).

(*b*) **Gurmukhi.**

34. *Khalsa Samachar* (Sikh, weekly).
35. *Akali* (Sikh, daily).
36. *Panch* (Sikh, weekly).
37. *Panth Sewak* (Sikh, weekly).
38. *Punjab Darpan* (Sikh, weekly).
39. *Satyug* (Sikh, weekly).
40. *Bir** (Sikh, weekly).

Of these, the circulation of No 6 was claimed to be above 7,000 copies; of Nos. 2 and 7 above 6,000, of No. 8 above 5,000; of Nos. 1, 9 and 34 above 3,000; of No. 10 3,000, of Nos. 11 to 15 and 35 to 37 above 2,000; of Nos 16 to 25 and 38 above 1,000; of Nos. 26 and 27 1,000; and of the rest between 500 and 1,000.

Executive action.

413. The total number of declarations filed under section 4 of Act XXV of 1867 during the year was 97, and under section 5 of the Act, 194. Security was demanded on 14 occasions by district magistrates. These demands were made either on original declaration or on re-declaration or by varying a previous order.

*Has since stopped publication.

No demand was made by the Local Government in the year under report. Securities of three presses, Gulzar-i-Muhammadi Press, Muslim Printing Press and People's Press of Lahore were forfeited for printing objectionable articles in the issues of the *Siyasat*, *Zamindar* and *Akali* newspapers, respectively. One newspaper (*Akali*) editor was prosecuted and convicted under section 124-A and 153-A of the Indian Penal Code for publishing objectionable articles on non-co-operation. Formal warnings were administered through district magistrates to newspapers and presses as follows :—

(*a*) Sixteen for publishing objectionable articles.
(*b*) Four for publishing a false report charging some constables with cutting a telegraph wire.
(*c*) Two for publishing articles likely to incite to acts of violence.
(*d*) Two for various other reasons.

Thirty-three publications were proscribed under section 12 (1) of the Indian Press Act (I of 1910), and twelve warnings were given under section 3 of XXV of 1867.

56.—Literary Societies.

[*Vide* pages 196 and 197 of the Administration Report for the year 1911-12.]

57.—Art and Sciences.

LAHORE MUSEUM.

Exhibition.

414. Progress continued in the arrangement of the Tibetan gallery, and improvements were carried out in the distribution of carpet and embroidery exhibits of the section of the museum which is devoted to applied arts. An art and craft gallery has now been opened, from which exhibits for the annual British Industries fair in London will be despatched. This province's first exhibition at the London fair was held in February last. A sectional catalogue of Indian paintings with 23 plates in colour and collotype will shortly be printed for the benefit of the public.

Buildings.

415. The arched roof of the central gallery has been dismantled and a new wooden roof constructed to prevent leakages and admit more light.

Visitors.

416. The total number of visitors during the year was 463,283, with a daily average attendance of 1,316, as compared with 391,660 and a daily average of 1,119, in the previous year. The number of female visitors during the days specially set apart for them was 6,507 against 7,556 in 1919-20, the decrease being due to the closing of the main gate on account of the repairs in the central gallery. Wednesday was, as usual, observed as students' day, but only the students of the Mayo School of Arts derived benefit from this concession. The conduct of the public in the museum was good.

Educational work of the Museum.

417. Of the fourteen lantern lectures proposed eleven were delivered, the average attendance being 135, as compared with 149 in the previous year. Lantern slides were lent throughout the province and to the North-West Frontier Province, Delhi and Cawnpore. The lecture hall and the lantern were also lent on various occasions for educational purposes. Museum exhibits were sent out on loan to the Mayo School of Arts, the Chiefs' College and the Society for Promoting Scientific Knowledge.

Acquisition.

418. The Museum acquired a variety of exhibits during the year, including some interesting Nepalese metal work, beautifully modelled images of Manjusri and Chintamani, and a number of additions to the collection of textile art. The accessions to the painting section were not numerous but mention may be made of the Abhisarika Naiyka and the Gagendra Mokhsha. A set of 34 metal seals, mostly of the Sikh period, was lent by the Punjab Government, while other provinces presented eight silver coins. Sixty-eight books were received gratis and fifteen more were purchased out of the museum fund.

Work done in the Museum.

419. A considerable amount of disinfection work of textiles was carried out under the supervision of the Archæological Chemist in India, hydrocyanic acid being used to preserve exhibits such as carpets and embroidery. Proper labelling and arrangements were completed in the textile, musical instruments and armoury sections.

Finance.

420. Expenditure remained within the sanctioned grant.

CHAPTER VIII.

Archæology.

DETAILED information on the subject of this chapter will be found in the annual progress report of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, Lahore, and of the Superintendent Muhammadan and British Monuments, Northern Circle, Agra, for the year ending 31st March 1921, and in the Administration Report of the Buildings and Roads Branch, Public Works Department, Punjab, for the year 1920-21.

58.—Archæology.

HINDU AND BUDDHIST MONUMENTS.

General.

421. During the year under review the total expenditure on the preservation and exploration of Hindu and Buddhist monuments in the Punjab amounted to Rs. 14,558, out of which Rs. 858 were devoted to annual maintenance charges The special works of conservation and exploration comprised (*a*) repairs to the temples and other remains in the ancient Hindu Fort at Amb ; (*b*) conservation of the semi-Kashmirian temple and gateway at Malot, in the Salt Range ; (*c*) the dismantling of the modern protection shed from over the rock-inscriptions at Kanihyara ; (*d*) repairs to the ancient temple in the Nurpur Fort ; (*e*) the fort at Kotla ; (*f*) the Kangra Fort ; (*g*) the Baijnath temple ; (*h*) demarcation with boundary pillars of the area declared to be protected under the Act at Sunnet, in the Ludhiana district ; and (*i*) exploration of certain ancient mounds at Harappa, in the Montgomery district.

Exploration.

422. The conservation work carried out during the year does not call for any special remarks, but a brief account of the excavations at Harappa, in the Montgomery District, may prove of interest. The work, which was done in January and February 1921 under the personal supervision of the Superintendent, is the first attempt at the scientific exploration of this ancient city site, which General Cunnigham was inclined to identify as the city of po-fa-to or po-fa-to-lo, where the Chinese pilgrim, Hiuen Tsang, halted for two months in order to study the principles of the sect of Sammitiyas, and which at that time was densely populated and provided with four Buddhist stupas and twelve monasteries containing about a thousand monks and twenty Brahmanical temples. The

remains that now mark the site consist of a series of mounds, six of which stand out prominently above the level of the surrounding fields. Three of these mounds were selected for preliminary excavations and acquired under the Land Acquisition Act. The ruins, though fragmentary, possess a peculiar interest, as they are among the earliest brick remains yet unearthed in India and have also yielded a valuable collection of portable antiquities, including two seals engraved in unknown characters. Other relics comprise a pair of bangles, executed with a high degree of artistic excellence, and a few plain glass bangles, which may prove to be the earliest specimens of glass found in India. The pottery unearthed at Harappa varies largely in type and size, from large water-pots to the smallest objects of domestic use, such as children's toy carts and ink-pots. Those interested in this subject will find fuller details in the annual progress report of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, Lahore.

Muhammadan and British Monuments.

Expenditure.

423 In the Punjab a sum of Rs. 70,390 in all was expended on the conservation of Muhammadan and British monuments during the year, Rs. 32,630 being spent on maintenance and annual repairs and the residue on special repairs. Among the latter, the principal works of conservation were in connection with the historical monuments of Lahore.

Lahore.

424. Extensive repairs were carried out at the tomb of Asaf Khan at Shahdara—the Persian prime minister of Jahangir, to whose influence is said to be largely due the predominantly Persian character of the Mughal buildings at Lahore. Work on its dangerously dilapidated garden walls had been for the most part completed during the previous year, and in 1920-21 efforts were mainly directed towards the restoration of the old *lakhauri* brick causeways intersecting the garden, and of the octagonal brick platform on which the tomb stands. In the adjoining Akbari Sarai the department carried out the re-metalling of the intersecting roads, the condition of which had seriously deteriorated, the repair of the enclosing *dalans* of the sarai, and the re-setting of displaced portions of the red stone facing of the mosque. In Jahangir's tomb here, the honeycombed plaster work of the domed ceiling

of the crypt was repaired. A dilapidated portion of the mirror-ornamented ceiling of the Shish Mahal in the Lahore Fort was repaired. The Chauburji at Lahore also received attention during the past year, and Rs. 1,490 were spent on laying with kankar the main roadway through the ruined gate and in providing brick on edge floors to the side chambers. The site was also enclosed with wire fencing, and the area levelled, grassed and planted with trees. In the Gulabi Bagh, on the Shalimar Road, a pathway to connect the entrance gate with Dai Angah's Tomb in the middle of the remains of the old garden (now in private possession and given over to cultivation) was begun and a sum of Rs. 420 spent on the work.

Northern Punjab.

425. At Attock, work on the conservation of the Begam ki Sarai, one of the old Mughal caravan sarais that marked the royal highway from the Indus across to Bengal was taken in hand and Rs. 3,040 spent on repairs, which consisted principally in underpinning the undermined portions of the old walls and the removal of the remains of a modern bungalow within the area. At Hasan Abdal, on the conservation of the monuments in the vicinity of the so-called Tomb of Lalla Rukh, Rs. 380 were spent. The work principally comprised the underpinning of the Hakim's Tomb and its platform and the clearance of the site generally; plans for the lay-out of which as a garden will, it is hoped, shortly be carried into effect. The sarcophagus of the Lalla Rukh Tomb, a monolithic block of *abri*, was taken to Agra for repair under the personal supervision of the Archæological Superintendent.

Miscellaneous.

426. Rs. 250 were spent on minor items of repair to the Akbari Baoli at Guzerat—principally the clearance of accumulated silt. At Thanesar, in the Karnal district, special repairs to the Patthar Mosque, a small red stone building remarkable for its minars and dating probably from the end of the fourteenth century, were begun and Rs. 300 spent on the purchase of red sandstone for the repair of the floor of the prayer chamber, and for a new *jali* window to repeat the design of an existing one. At Sonepat, on the tomb of Khwaja Khizr, Rs. 3,920 were spent principally on the underpinning of the dilapidated wall of the terrace, on which the tomb is elevated, and the relaying of the concrete floor and platform. A number of Kos Minars, marking the royal route of Mughal days in

the Gurgaon district, were repaired at a cost of Rs. 1,723, the work consisting of underpinning and repairing broken plaster, and the clearance of jungle growth in the vicinity. The repairs to the British monument at Chillianwala in the Gujrat district commemorating the battle fought in January 1849, in the Second Sikh War, were also completed during the year.

LIBRARY
OF THE
BOMBAY
BRANCH
OF THE
ROYAL ASIATIC SOCIETY

CHAPTER IX.

Miscellaneous.

59.—Ecclesiastical Jurisdiction.

(For this section refe rence should be made to pages 201—207 of the Report for 1911-12.)

60.—Ecclesiastical.

427. There is nothing of importance to report.

61.—Stationery.

428. The total value of stationery supplied during the year was Rs. 5,02,625, showing a saving of Rs. 12,600 from the allotment. Compared with the expenditure of the preceding year, there is an increase of Rs. 50,712 and an increase of Rs. 1,12,073 over 1918-19. There were 25 additions to the list of indenting officers during the year under report.

62.—Punjab Government Press.

Labour.

429. Industrial unrest has not been so acute as in the previous years. It was to a certain extent allayed by a general revision of salaries, including increased piece-work rates to compositors and distributors. Discontent still exists, however, chiefly owing to the continued high prices of foodstuffs and other necessaries. There is a slight increase in the number of compositors now employed, but skilled workmen are difficult to obtain. As an experimental measure a small press was opened in the Borstal Institution, where about 80 inmates are now being trained in composing, printing and binding. The results have proved most encouraging and the scheme is worthy of further development, especially in consideration of the large demand for skilled workmen in the printing and allied trades.

Finance.

430. The value of printing and binding work executed by the Secretariat Press for various departments was about Rs. 33,000 in excess of the previous year. Revenue from sale of Government publications also exceeded last year's figure by Rs. 7,000. General expenditure, exclusive of the cost of printing paper and binding materials, amounted to Rs. 3·20 lakhs against Rs. 2·65 lakhs in the preceding year. The increase is chiefly due to the revision of salaries.

1865 CS—890—10-8-22—SGPP Lahore.

MAP of the PUNJAB
To accompany the Administration
Report of the Punjab for 1919-20.
Scale
Miles
K A S H M I R
CHAMBA
GURDASPUR
LAHORE
LUNDUR
SIMLA
SIRMUR
R. SUTLEJ
R. SUTLEJ
76°
77°
78°
33°
32°
31°

GURDASPUR
LAHORE
SIMLA
SIRMUR
PATIALA
KARNAL
DELHI
UNITED PROVINCES
Single line (5'-6")
Narrow gauge (2'-6")
Provincial
Local Boards
Unmetalled
Unmetalled

DISTRIBUTION LIST OF PUBLIC WORKS DEPARTMENT (BUILDINGS AND ROADS BRANCH) CIRCLES AND DIVISIONS AND THE CIVIL DISTRICTS INCLUDED IN THE P. W. D. DIVISIONS.
Circle of Superintendence with Head-quarters.
Public Works Dept. Division.
Civil Districts included in the Public Works Dept. Division.
First Circle Rāwalpindi.
Rāwalpindi
Rāwalpindi
Jhelum
Attock
Shahpur
Shahpur
Mianwali
Jhang
Lyallpur
Lyallpur
Sialkote
Gujrat
Gujranwala
Second Circle Ambāla.
Simla
Simla
Gurgaon
Gurgaon
Hissar
Rohtak
Ambala
Ambāla
Ludhiana
Karnal
Jullundur
Jullundur
Hoshiarpur
Ferozepur
Third Circle Lahore.
Kangra
Kangra
Multan
Multan
D.G. Khan
Muzaffargarh
Lahore No. 1
Lahore
Montgomery
Lahore No. 2
Lahore
Amritsar
Gurdaspur
Sanitary Circle Lahore.
Sheikhupura
Sheikhupura
Lahore
All District
PROVINCE
ATTOCK
RAWALPINDI
SHAHPUR
GUJRANWA
SHEKHUPURA
MONTGOMERY
LYALLPUR
JHANG MAGHIANA

BALUCHISTAN
SIND
RAJPUTANA
PUNJAB
SHEIKHUPURA
MONTGOMERY
MULTAN
MUZAFFARGARH
DERA GHAZI KHAN
BAHAWALPUR
SUKKUR
JACOBABAD
SHIKARPUR
LARKANA
DADU
HYDERABAD
KARACHI
KALAT
QUETTA
SIBI
ZHOB
LORALAI
SURAB
KHARAN
KHUZDAR
LAS BELA
JHALAWAN
MAKRAN
KHARIAN
PANJGUR
NUSHKI
CHAGAI
KHANPUR
SHAHDADPUR
MIRPUR KHAS
NAWABSHAH
SANGHAR
MIRPUR BATORO
TANDO ADAM
TANDO MUHAMMAD KHAN
TANDO ALLAHYAR
MATIARI
JAMSHORO
THATTA
SUJAWAL
KOTRI
HALA
SEHWAN
KOHISTAN
KOHAT
BANNU
DERA ISMAIL KHAN
TANK
LYALLPUR
JHANG
SARGODHA
SHAHPUR
MIANWALI
BHAKKAR
LEIAH
JHANG MAGHIANA
TOBA TEK SINGH
GOGAIRA
OKARA
PAKPATTAN
DIPALPUR
KASUR
LAHORE
SHEIKHUPURA
MONTGOMERY
MULTAN
MUZAFFARGARH
DERA GHAZI KHAN
BAHAWALPUR
Indus River
Sutlej River
Ravi River
Chenab River
Jhelum River
Kabul River
Gomal River
Zhob River
Pishin Lora
Nari River
Bolan River
Mula River
Hab River
Kirthar Range
Khirthar Range
Sulaiman Range
Suleiman Range
Toba Kakar Range
Central Brahui Range
Makran Coast Range
Hala Range
Pab Range
Siahan Range
Chagai Hills
Ras Malan
Ras Muari
Karachi
Hyderabad
Jacobabad
Sukkur
Quetta
Kalat
Khuzdar
Las Bela
Panjgur
Nushki
Dalbandin
Zahidan
Pasni
Gwadar
Jiwani
Sonmiani
Kohat
Bannu
Dera Ismail Khan
Tank
Lyallpur
Jhang
Sargodha
Shahpur
Mianwali
Bhakkar
Leiah
Jhang Maghiana
Toba Tek Singh
Gogaira
Okara
Pakpattan
Dipalpur
Kasur
Lahore
Sheikhupura
Montgomery
Multan
Muzaffargarh
Dera Ghazi Khan
Bahawalpur
Khanpur
Shahdadpur
Mirpur Khas
Nawabshah
Sanghar
Mirpur Batoro
Tando Adam
Tando Muhammad Khan
Tando Allahyar
Matiari
Jamshoro
Thatta
Sujawal
Kotri
Hala
Sehwan
Kohistan
70° E. of GREENWICH
75
76
REFERENCE
Boundary Province or State. District. Tribal
First Class (Gold) Circle
Second Class Circle
Third Class Circle
Native States in Punjab
Railway Broad Gauge. Double. Single
Metre Gauge. Other Gauges.
Road Metal. Mineral with Pass
Triangulation Station. Intersected Point
Fort. Bastion Field (with date)
Encamping Ground
Bungalows or Rest Houses

PUNJAB ADMINISTRATION REPORT,
1921-22.

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PUNJAB ADMINISTRATION REPORT, 1921-22.

VOL. II

(Containing the annual portion of the decennial report.)

Lahore :

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, PUNJAB

1923.

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PREFACE TO VOLUME II.

THE Administration Report normally deals with the year's working only, but every ten years the Report covers a much larger ground, historical and descriptive matter being included which will only need revision every ten years. In the present year such a revision is due. The decennial report is made up of two parts, the annual and decennial. In previous Reports these were published together. This year, for various reasons, it has been decided to publish the Report in two volumes. This volume, dealing with the year's administration, is published first in order to provide early information of the course of administration during the year. The traditional 'year under report' varies. The Administration Report is based on the reports of the various departments. These reports deal with varying periods, extending from Land Revenue, which deals with the year ending on the 30th September, 1921, to Co-operation which deals with the year ending on the 31st July, 1922, practically a year later. The exact period for each subject can be found by referring to Appendix I, where a list is given of the various Reports, on which this Report is based. Generally, however, it may be said that Chapters I and VI relate to the Calendar year 1921, Chapter II to the year ending September 30th, 1921, and the remaining Chapters mainly to the financial year ending March 31st, 1922. As far as possible the recognised order of subjects has been maintained, but in a few cases this arrangement has been departed from, where another order seemed more logical. For convenience of reference an appendix is added giving the official sections and the corresponding paragraphs of the Report. A brief general subject index is also added. An abstract of the most important subjects dealt with is given in the General Summary.

Report on the Administration of the Punjab and its Dependencies for 1921-22.

GENERAL SUMMARY.

Protection.

1. The year 1921 brought no respite from political agitation. The Congress movement with its programme of non-cooperation, the establishment of Congress Committees and *Panchayats* in all important towns and villages and the organisation of Volunteer Associations was pushed on vigorously, especially by means of public meetings. Khilafat propaganda was carried on simultaneously with equal vigour and on exactly parallel lines. During the year Sikh agitation also reached its climax, and was perhaps the dominant feature of the political situation. In February 1921 Sikh lawlessness resulted in the tragedy at Nankana Sahib. Political unrest combined with scarcity and consequent high prices led to an increase in crime. Dacoities rose to 187 as against 111 in 1920 and 84 in 1918. There were 668 murders as against 575 in 1920. The jails were overcrowded, and the difficulty of accommodating prisoners became acute. The standard of discipline in jails deteriorated. Prisoners refused to work and the hunger-strike made its appearance. Civil litigation, however, declined.

Administration of the Land.

2. A weak monsoon in 1920 was followed by drought till December. Light rains in January and February were quite insufficient to redeem the situation. A poor rabi in 1921 was followed by a weak monsoon which failed almost completely in September when rain is most beneficial. The amount of fixed revenue suspended was inevitably large (Rs. 30 lakhs out of a total demand of Rs. 240 lakhs). That under such adverse seasonal conditions the collections of fluctuating land revenue only fell by 5 per cent. is a remarkable tribute to the efficient working of the Canals. Settlement operations were in progress during the year in five districts. The work on the Multan Settlement was

carried out with commendable punctuality and economy, and has resulted in a moderate enhancement of 5 lakhs or 32 per cent. on the previous assessment.

The chief problem of Colony officers during the year has been the discharge of the commitments already undertaken by the Punjab Government in respect of the allotment of land, and in particular the distribution of the reward grants promised to Indian soldiers. In consequence it has been necessary to turn a deaf ear to all proposals for new grants. The Punjab Government has applied to the Government of India for permission to discharge their obligations to military grantees from the land allotted to various cavalry regiments for stud farm grants which, owing to the abolition of the Silladari system, have now been abandoned by the regiments. The request was met in part in the next year and the situation has been relieved in consequence, but there is still a considerable shortage of land suitable for grant to soldiers.

The functions of the Loans Acts are slowly devolving on the Co-operative Department. Yet in a bad year, such as 1920-21, it was found necessary to advance Rs. 35 lakhs under the Agriculturists' Loans Act, for the purchase of bullocks and seed grains. Another Rs. 30 lakhs was advanced by the Co-operative Department for similar purposes. There can be no doubt that the Rs. 65 lakhs so advanced has proved to be a determining factor in the return to normal conditions with the aid of the favourable monsoon of 1921.

District Boards.

3. As is inevitable in a year of soaring prices, the activities of District Boards during the year 1921-22 have been dominated by the problem of Finance. Expenditure has increased almost in proportion to the rise in prices, but income remains relatively inelastic. Moreover, District Boards have undertaken schemes of expansion in Education, Medical Relief, and in a few cases Communications, without any consideration as to how the recurring expenditure involved could be met. Consequently the Boards are faced with a twofold increase in expenditure at a time when it is impossible for Government to increase grants. Next to Government grants the main source of income is the local rate. This was hitherto limited to a maximum of 20 pies per rupee of Land Revenue. A bill has, however, since passed the Legislative Council raising the maximum to two

annas with a minimum of 20 pies. This will allow for a considerable, though hardly adequate increase, in income. A serious attempt to broaden the basis of taxation has been made in some District Boards. *Haisiyat* or Profession taxes have been imposed on those who do not pay Land Revenue. There are great difficulties, however, both in the assessment and collection of this tax. Arboriculture is becoming a source of income in submontane districts like Sialkot or Ambala, and to a less degree in Canal Colonies like Lyallpur. It seems, however, unlikely that increased income will make District Boards solvent without drastic economies in expenditure. For such economies Education expenditure would seem to afford most scope. For while expenditure on the important heads of Medical Relief and Communications has increased less than prices have risen, Educational expenditure has increased fourfold within the last five years. The movement for expansion has now proceeded as far as it can safely go with existing resources, and a short rest is needed to consolidate achievement and to consider the comparative calls of other services. In many districts the supply of schools has outrun the demand, and the increase of schools has not brought a proportionate increase of scholars. Economy is therefore possible without inflicting unnecessary damage. The abnormal expansion of Educational expenditure has absorbed funds which were urgently required for Medical Relief and Communications. A second difficulty experienced in maintaining efficient roads is caused by the greatly increased cost of maintenance. This is due primarily to heavy freight charges and enhanced wages, but in part to the increased wear and tear on the roads, for which heavy motor traffic is responsible. The reconstitution of all District Boards on an electoral basis, with an increased elective element for those boards, which are already partially elected, has now been undertaken by Government and will shortly be complete.

Municipalities.

4. Perhaps the most interesting fact to be recorded in Municipal working in 1921-22 is the entry of so-called non-cooperators into Municipal Committees. It is well known that Congress has placed no embargo on participation in local affairs and from the political point of view the working of Committees containing a non-cooperating element is of considerable interest and not without its bearing on future happenings in a wider political sphere. The constitutions of all

Municipal Committees are under revision. This reconstitution will provide not only for the introduction of the elective system in most of those Committees where it is not already in force, but also for its extension wherever it already exists. A distinct awakening is already reported on the part of the members of the larger Committees of the Lahore Division. The Lahore Municipal Committee has made a real attempt to purge its administration of corruption, which was reputed to be rampant among the rank and file. For their revenue the great majority of Municipalities still rely on the antiquated octroi system of which the disadvantages are too well known to need recapitulation. It was hoped that many of these disadvantages might be avoided by terminal taxation, *i.e.*, by a light duty on all exports and imports by rail. But the amount which can be obtained from octroi or terminal taxation is limited. Higher rates bring less returns. The maximum limit seems now to have been reached. The total expenditure of Committees exceeded the total income by Rs. $7\frac{3}{4}$ lakhs. It seems therefore unlikely that Committees will be able permanently to avoid the imposition of a house tax, unpopular though such a measure would undoubtedly be amongst the wealthier members of the community.

The Legislative Council.

5. The Legislative Council during the year 1921-22 held three sessions in addition to concluding the adjourned Spring Session of the year 1921. Acts were passed amending the Municipal Act; fixing the Deputy President's salary; and legislating for small towns and village *Panchayats*. The most memorable event was a visit which His Royal Highness the Prince of Wales was graciously pleased to make to the Council, during his short stay in Lahore. Mr. Butler continued as President throughout the year. The Council amended its Standing Orders, adopted the report of a Committee regarding the duties and position of the Deputy President and with the assent of His Excellency the Governor twelve Standing Committees on Finance, Canals, Jails, Industries, Co-operative Societies, Public Health, Agriculture, Education, Land Revenue and Police were appointed, each containing a majority of elected members, the rules regarding these Committees being made a part of the Standing Orders. The Budget was disposed of in six sittings. In view of the unsatisfactory condition of the finances, as disclosed in the Finance Member's Budget Statement, the Council naturally showed a disposition to cut down grants.

They acted, however, on the whole with commonsense and discrimination and readily compromised when Government was able to meet their wishes half way. The readiness of the Council to pass resolutions on pet subjects, involving, if given effect to, heavy extra expenditure, in spite of the unsatisfactory condition of the Provincial Finances, gives cause for disquietude. It remains to be seen whether the members will be ready to approve of the extra taxation necessarily involved. The past year has witnessed a decided improvement in the relations between the official and the non-official benches. When the Council first met signs of strain were not wanting on a variety of subjects. Criticism was unsparing and not always well-informed. Sobriety and cooperation are happily becoming more and more characteristic of the proceedings. At the close of the first full year's work it may be stated with confidence that the Council has made an excellent beginning and has risen to its opportunities, that the members as a rule take a keen interest in their duties, and have devoted great time and industry towards the service of the Province both in Council and in Committee.

Agriculture.

6. The Agricultural Department is devoting increased attention to research ; and is, on that account, putting up a strong plea for a trust fund so that it may know the means at its disposal for that object. Not only are specific problems being attacked, but the whole basis on which research should be conducted, is being investigated. The broader question of the application of economics to Agriculture is being tackled by the Co-operative Department as effectively as is consistent with the limited means at its disposal. The conclusions arrived at from the research work in Scientific Agriculture and Rural Economics are spread by propaganda work in the districts. The most valuable medium for this work is the Co-operative Department. Ideas ferment and are gradually spread by the staff among the people, who are thereby brought to understand the beneficent intentions of methods undertaken by Government for rural reconstruction. It is, however, by inculcating thrift that the Co-operative Department is doing what is, perhaps, its most valuable work. It is no longer considered sufficient that agriculturists should deal with Co-operative Societies instead of the money-lenders. They are gradually learning to build up their own capital. Deposits in Agricul-

tural Societies have risen from Rs. 22 lakhs in 1920 to Rs. 32 lakhs in 1922 and Reserve from Rs. 46 lakhs to Rs. 57 lakhs. Cattle-breeding has received a serious set-back owing to the difficulty of retaining suitable experts. The whole question of cattle mortality, however, is receiving attention. The work of Mr. Cross, the Camel Specialist, is an example of what can be done by science in dealing with practical problems.

Forests.

7. The Forest Department is not run as a purely profit-working institution. The first claim on the forests of the Province is that of the agriculturist, and in order to enable him to carry on his vocation the department in 1921-22 gave away free or at low rates no less than Rs. 30½ lakhs worth of timber, firewood, fodder and grazing. Its next duty is to protect the forests from damage and to see that intensive utilisation is followed by work to assist Nature in the complete restocking of forests. As a purely commercial enterprise, however, the Forest Department is exceedingly profitable. The cash surplus of the year was Rs. 6¼ lakhs or 14 per cent. on the total expenditure Rs. 43¾ lakhs. Of this expenditure, however, Rs 5⅓ lakhs were spent on capital outlay, which in a commercial undertaking would not be debited to revenue. If its accounts are drawn up in a businesslike way (showing capital expenditure separate from working expenses) it shows this year a 35 per cent. return on a working expenditure of Rs. 38 lakhs. Under the antiquated system of accounting which has obtained hitherto all capital expenditure (amounting in 1921-22 to Rs. 5⅓ lakhs) has had to be met from revenue. This has both stifled development, and also disguised the exceedingly profitable nature of the Forest Department's undertakings, even when regarded from a strictly commercial point of view. These methods are being revised, and with the provision of capital for the development of forest communications the productive nature of Forest work will be still more evident.

Industries.

8. Before any marked industrial development can take place in the Punjab (*a*) cheap power, (*b*) transport and marketing facilities, and (*c*) technical education must be provided. (*a*) The local supply of coal is inadequate and freight charges double the cost of coal from Bengal. Oil is being obtained from the Attock District but no great industrial

expansion seems possible till the hydro-electric power, which exists in the province, is developed. (*b*) Railway transport facilities are being improved and surveys and detailed reports for agricultural tramways are being prepared. The marketing of cottage industrial products is being facilitated by the establishment of the Arts and Crafts Department in Lahore. (*c*) The most useful form of technical education given is in carpentry, which, in Industrial Middle Schools, enlists three times as many students as all the other crafts put together. For the smith's craft machine tools are desirable and at present they cannot be provided on account of expense. The two remaining crafts, that of the copper-smith and weaving, are both crafts that are better taught in the bazars. Apart from these beginnings facilities for technical education of a very thorough kind in mechanical and electrical engineering, motor car work, tanning, dyeing, and boot and shoe manufacture will shortly be available, as special institutions for these purposes are under construction or have the approval of Government.

Trade : The North-Western Railway.

9. In 1921-22 normal trade conditions were upset by the scarcity of food grains, especially wheat, and during that year the Punjab imported Australian wheat to the value of Rs. 5·2 crores as against Rs. 4·0 crores of wheat exported. The slump in English trade in 1920-22 which followed the post-war boom in 1919-20, is shewn in diminished exports of raw cotton and hides. The same trade conditions, enhanced probably by the swadeshi and non-cooperation movements, diminished the imports of English cotton manufactures. The necessity for machinery to make up the heavy leeway lost during the war explains the rise in iron and steel manufactured imports (mainly British).

The gross earnings of the North-Western Railway fell slightly, heavy losses on the transport of wheat and other food grains cancelling an all-round increase under other heads. Working expenses, on the other hand, rose, so that net earnings fell from Rs. 302 to Rs. 41 lakhs or from 3·1 to ·4 per cent. on the capital outlay. The number of third class passengers travelling rose from 64·04 million in 1920-21 to 69·29 million in 1921-22, the increase being mainly due to the improved facilities introduced by the Railway authorities. The North-Western Railway has also shewn the lead to other railways and other Government Departments

by the introduction of a scientific method of keeping railway statistics.

The Public Works Department (Buildings and Roads).

10. The total expenditure on the Buildings and Roads Branch of the Public Works Department amounted in 1921-22 to Rs. 136 lakhs, an increase of Rs. 12 lakhs on the previous year. Apart from the usual undertakings of the Department, work proceeded on the new Civil Station at Sheikhupura. Important work has also been done in improving and bridging gaps on the Grand Trunk Road, thereby rendering communication possible throughout its length under all seasonal conditions.

Irrigation.

11. The total capital expenditure on Irrigation was Rs. 25½ lakhs of which Rs. 6½ lakhs was spent on the older canals, Rs. 14 lakhs on the five colony canals and Rs. 4 lakhs on the construction of the Sutlej Valley Project. Rs. 3 lakhs were realised mainly from the sale of surplus stores, etc., rendered available by the completion of works on the Triple Canals and from colonists on account of water-courses which Government had built for them in order to secure rapid development of the Triple Canal system. Deducting this the net capital expenditure amounted to Rs. 22½ lakhs. Gross receipts amounted to Rs. 530 lakhs as against an average of Rs. 460 lakhs in the previous triennium. But working expenses had also risen to Rs. 181 lakhs from a corresponding Rs. 137 lakhs. This is mainly due to a general increase in cost of labour and materials and pay of establishment and also to some special works which were carried out on some of the canals out of revenue in addition to the ordinary maintenance of and repairs to headworks, main line, branches, distributaries, buildings, plantation and silt clearances. Thus the net revenue in 1921-22 was only Rs. 26 lakhs more than the average of the previous triennium, though the canal irrigated area has risen from 9·3 to 10·5 million acres in the same period. The Punjab canals are a valuable asset of the country, growing in importance and value daily, so much so that in dry seasons when the demand is very keen they are strained to their utmost carrying capacity to secure protection against failure of the harvest. High maintenance charges are necessary to ensure the running of high supplies and these increased charges can only be met in the near future by increasing the water rate, especially in

the case of those canals on which the water rates have not been revised for many years. In the case of the Upper Bari Doab Canal the present water rates have been in force for the past 30 years. Government has now to pay a higher rate of interest on borrowed money and there is also a serious deficit in the Budget. It is for these reasons that proposals have been made to raise the Irrigation water rates.

Finance.

12. The authors of the Montague-Chelmsford Reforms Report had urged the necessity of complete separation between the finances of the Central Government and those of the various Provincial Governments. Their main recommendations which were acted on with effect from 1st April 1921 were that no head of revenue should continue to be divided, and that Land Revenue, Irrigation, Excise and Judicial Stamps should be completely provincialised. To these General Stamps were added by a Committee appointed in January 1920, leaving Income-tax only for the Government of India. Responsibility for famine insurance is also thrown on the provinces. To provide the Government of India with an adequate income contributions from the provinces were found necessary, the Punjab being charged Rs. 175 lakhs annually in the first instance. Whatever may be its effect on provinces containing large commercial centres, a predominantly agricultural province such as the Punjab is undoubtedly the gainer under the new system. Other things being equal the Punjab would have launched the new regime with a cash balance of Rs. 140 lakhs in hand, and a net annual further gain of Rs. 59 lakhs. Actually, however, it ended the first financial year after the introduction of the Reforms (1921-22) with a deficit of Rs. 90 lakhs. Briefly the reasons for this may be given as a heavy increase in expenditure due to the rise in prices combined with an inelastic revenue.

Analysis of Income and Expenditure.

13. In analysing expenditure some distinction seems necessary between capital and current expenditure. Capital expenditure on Irrigation and Forests is productive. The Irrigation Works brought in 1921-22 a net profit of Rs. 233 lakhs, forming one of the most important sources of revenue to the province. This is absolute profit, after deducting the interest on the loans raised. This of course leaves out of count the other revenue that Government derives from the Canal Colonies, all ultimately due to the Irrigation Depart-

ment. The Forest Department has been only prevented from shewing similar results by the necessity of meeting all capital expenditure from revenue. When its accounts are put in a businesslike form the Forest Department shews a 35 per cent. return on its working expenditure. Apart from Forest development the Punjab Government have under contemplation Irrigation and hydro-electric projects. The total expenditure involved will be about Rs. 47 crores, in the next 20 years, the average annual amount required from loans being about Rs. 3 crores per annum during the next 5 years. Considering the remunerative nature of the projects there should be no difficulty in financing these loans at a reasonable rate of interest. Owing to the nature of the season, Land Revenue Receipt in 1921-22 were Rs. 40 lakhs below average, but against this must be off set an income of Rs. 21 lakhs from the sales of Government estates, a non-recurring item. Expenditure on roads which, being necessary to agriculture and commerce, may be described as quasi-productive has remained stationary during the last 3 years, though the cost of repairs has gone up from Rs. 20 to 30 lakhs in two years. The saving has been effected in diminished expenditure on the construction of new metalled roads which has fallen from Rs. 24 to 8 lakhs. As prices have doubled this means that new construction is reduced to a sixth of what it was previously. Expenditure under the Administrative heads of Police, Land Revenue, and General Administration has been cut down to a minimum. Educational expenditure has been rising rapidly. The question as to whether retrenchment is advisable belongs to the province of political expediency rather than that of finance. The province has been administered economically in the past and the scope for retrenchment is small. The only alternative left to the Punjab Government is the imposition of additional taxation. Stamp duties and court-fees have been enhanced (the latter a tax which will hit mainly the litigious who can fairly be expected to pay) ; and it is also proposed to raise the canal water rates.

Excise.

14. The Punjab Government's Excise policy has been to secure the minimum of consumption of liquor but that the proportion of profits from that minimum of consumption which is to accrue to the State should be as large as possible. Partly as a result of this policy and partly from

other causes there has been 43 per cent. decrease in licit consumption from 7·3 to 4·1 lakhs gallons with a 21 per cent. diminution of gross income from Rs. 148 lakhs to 116 lakhs. Expenditure has also risen by a lakh mainly owi ng to a long overdue revision of the salaries of the establ ishment. Political agitation rendered advisable some modification of the licensing system. Excise taxation was in two forms, a fixed still head duty (raised from Rs. 7-8-0 to Rs. 10-10-0 per gallon as already stated) and auction fees from licenses. The tendency has been to raise the still head duty so that the auction fees may automatically decrease. In January 1922 country liquor and bazar foreign liquor auctions were a complete failure. All negotiations were called off and tenders were invited for licenses under this new system. This substituted for the lump sum fixed fee for the whole year a fee payable on every gallon of 30° under proof which was drawn by the licensee from the distiller or wholesaler. The still head duty was raised from Rs. 10-10-0 to Rs. 14-1-0 per gallon, and it was anticipated that the necessity for keeping down the retail price would lower the vend fee rates. Both the new vend fee system and the new duty took effect from 1st April 1922. The new arrangements met with general approval. There is reason to believe that the minimum liquor consumption that can be achieved by raising the duty has now been reached and that a further rise would merely lead to increased illicit distillation and smuggling. The decrease in licit consumption of opium has similarly led to smuggling, but opium is now smuggled into, instead of out of the province, as hitherto.

Imperial Departments in the Punjab : Income-tax, and Salt.

15. Income-tax receipts are now credited to the Imperial Government. Though it is too early to judge the results of the creation of a special Income-tax Department its independence of the political atmosphere of the province will probably enable the Department to tax more effectively and efficiently.

The collection of Salt Revenue has always been under the direct control of the Government of India. The duty on salt being Re. 1-4-0 per maund, and the cost of extraction 4 annas, the price should not exceed Rs. 2 per maund anywhere near a railway. At a distance from a railway cost of carriage begins to tell, till in a road-less district like Kangra the cost may be doubled or trebled. Actually, however, the price has greatly exceeded this

limit. The Punjab produces enough salt for its own consumption. But during the war it had to supply Bengal also which had previously relied on supplies by sea. Even after the war, the scarcity inevitably arising from the lack both of internal and of oversea transport, combined with the continued cessation of supplies from German and Turkish sources, encouraged speculators to exploit the situation. Towards the end of 1920 it was decided that the only possible remedy was to appoint, in every district in Northern India, as well as in certain Indian States, agents to whom an allotment of salt from Northern India sources could be made monthly on the basis of population. The internal distribution of salt within each district was controlled by the District Officer, the only requirement made by the Northern India Salt Revenue Department being the limitation of commission realised by the agent. In practice, however, these limitations were difficult to enforce and they tended to remain a dead letter. The system, however, worked with fair success as long as the shortage of salt remained acute, but when increased supplies of salt in the cold weather of 1921-22 facilitated competition, the nominees proved in many cases unable to compete with traders to whom the Commissioner of Salt granted passes, a procedure which was consistent with the intentions of the Agency System. It is possible therefore that the agency system will be abandoned, and free trade restored.

Vital Statistics and Medical Service.

16. In 1919 the Punjab had a birth-rate of 41 and a death-rate of 30 per thousand of population. The Punjab still figures as the province with the highest birth-rate, while coming low on the inter-provincial list for deaths. With the opening of 45 new dispensaries, the largest measure of advance on record, the year 1921 closed with nearly 600 hospitals and dispensaries working, and from these over 5 million patients received treatment during the year. In view, however, of the financial difficulties of both the Provincial Government and local bodies, this rate of expansion will be difficult to maintain. Financial stringency has also affected the vaccination staff. It has been decided to abolish the posts of Divisional Inspectors and no new recruits are being enlisted.

Education.

17. The application of the Reforms Scheme to Education has inevitably resulted in some division of control.

Thus while Education generally is a transferred subject, and under the control of the Minister for Education, responsible to the Legislative Council, European education is reserved and controlled by the Finance Member. Much Secretariat work is saved by the fact that the Director of Public Instruction in his capacity of Under-Secretary deals directly with the Minister, except in such cases as are submitted to him through the Finance Department. The recommendations of the Calcutta University Commission have been partially acted on in the Punjab. Honours Schools have been instituted, which provide better and more varied teaching for the students. Four Intermediate Colleges have also been opened, though it seems unlikely that two-year Colleges of this type will be entirely successful. Secondary education continues to advance both in number and quality, in spite of drawbacks due to the unequal distribution of schools, and the fetish-workship of the examination system. In its method of Agricultural training the Punjab takes the lead. An intensive training in Agriculture is unsuited to young boys. A good general training is provided, enriched, in suitable places, by some practical training in Agriculture. In spite of financial difficulties, vernacular education owes much to the formulation of the five-year programme. The misunderstandings that have arisen between District Boards and Government on the manner and amount of the grants are being carefully gone into, and unnecessary expenditure is being reduced. The increase in the total number of scholars from 557 thousand in 1920-21 to 627 thousand in 1921-22 explains the increased expenditure.

CHAPTER I.

PROTECTION.

Political Agitation.

1. The year 1921 brought no respite from political agitation. The Congress movement, with its programme of non-cooperation, the establishment of Congress Committees and Panchayats in all important towns and villages and the organisation of Volunteer Associations, was pushed on vigorously, particularly by means of public meetings. Speeches were entirely unrestrained, and at no time in the past has the endeavour to stir up agitation and racial hatred reached a higher pitch. Khilafat propaganda was carried on simultaneously with equal vigour and on exactly parallel lines. The leaders of the two movements exhibited the utmost harmony and frequently worked in unison.

The Gurdwara Movement.

2. During the year Sikh agitation also reached its climax, and was perhaps the dominant feature of the political situation. Fostered by the extremists, the movement originally aimed at the control of the Khalsa College and the Golden Temple. The reconstitution of the Council and Managing Committee of the College stilled complaints upon the former subject, but the latter problem was, owing to differences among the Sikh community, less susceptible of solution. After consultation with His Highness the Maharaja of Patiala, a Provisional Advisory Committee was formed to draw up a scheme for the management of the Golden Temple. A large meeting of Sikhs agreed to accept the nominees of Government on the Committee, but the Committee, as contemplated, was stillborn for it merged itself in a larger and self-appointed organisation, known as the Shromani Gurdwara Parbandhak Committee, consisting of 175 members. Religious reform had now become the watchword of the Sikh malcontents. The Shromani Gurdwara Parbandhak Committee declared its intention of obtaining control over all the Sikh Gurdwaras and other Sikh religious institutions in the Province and of providing for their management. The Akali Dal, organised by this Committee, grew to abnormal proportions and was utilised for the purpose of seizing Sikh shrines and Gurdwaras. Disaffection spread rapidly in the central districts of the Punjab. This semi-military body attracted

recruits of every stamp, including *ex*-soldiers, returned emigrants and men of bad character, and formed (and still forms) a very serious menace to Government. Political and pseudo-religious meetings were organised in the villages for recruiting purposes. In these meetings the overthrow of Government was openly advocated.

The Tragedy at Nankana Sahib.

3. In February Sikh lawlessness resulted in the tragedy at the Janam Asthan Shrine at Nankana Sahib. The shrine was built to commemorate the birth of Guru Nanak, which occurred there. Since it was founded it has been in possession of Mahants who are Udasi Fakirs—a sect that arose after the death of Guru Nanak, adopting his elder son Siri Chand as his successor and repudiating the nomination of Guru Anand. The Mahant of Nankana Sahib feared an attack upon that shrine and applied to the authorities for protection. As Government refused to interfere directly in a religious dispute of this kind the Mahant engaged Pathans and others to guard the shrine and made preparations against an attack. The Gurdwara Parbandhak Committee sent him a notice that the Sikhs would be obliged to turn him out at a Dewan which was to be held on the 3rd or 4th of March unless in the meantime he had instituted reforms, so that he was justified in expecting an attempt to dispossess him. On the night of the 19th February 1921, a body of Sikhs from the neighbouring Lyallpur District marched to Nankana with the object of taking possession of the shrine. They arrived about daybreak and most of them went straight into the four-walled enclosure surrounding the shrine. They turned out a Pujari who was conducting service and allowed the Mahant's guards to escape by the eastern door. Then they shut the doors of the enclosure. The Mahant's supporters began to gather. A few of them climbed on the walls of the enclosure and three or four, who had shot guns, opened fire on the Sikhs, while others threw bricks from the wall. The Sikhs took shelter in the rooms and verandahs at the eastern entrance to the enclosure and also in the shrine itself. The Mahant's party then made a systematic attack on the Sikhs with guns and with axes. They descended from the walls and shot and cut down a number of Sikhs, who had taken refuge in the side rooms of the eastern porch. Other Sikhs who came up later were attacked outside the enclosure and chased towards the railway line and the lime kiln. Then the remainder of the band who had

taken refuge inside the shrine itself were shot down. The wounded were then killed and, finally, the dead were gathered together in heaps, mostly within the enclosure but some outside, and their bodies were burnt. The number of the killed is estimated roughly at 130. Fifty-one persons were committed for trial for the crime, of which three were hanged and three transported. Later in the year there came to light a conspiracy to import arms and explosives for the purpose of assassinating certain officials and others, who had incurred the hostility of a section of the Sikh community. It was effectually stopped by the conviction of the ring-leaders in court.

Increase in Crime.

4. Political unrest led to a general disregard of authority and a consequent increase in crime. During the year prices were high; crops were poor; and the poorer classes felt the pinch severely. Political unrest distracted the attention of the Police and Magistrates from their normal duties. The Police were subjected to constant vilification, with the result that their influence with, and the assistance received from, the public declined and the criminal element of the population was emboldened. In the canal colonies, and the Dera Ghazi Khan and Mianwali districts, there was an influx of poverty-stricken people from dry areas adjoining, which led to increases of crime. In the Mianwali district this influx of strangers from the border was particularly serious, for they extended their criminal acquaintance and obtained local knowledge that helped them in the dacoities and robberies that followed in the Isa Khel tahsil. In the Central Punjab the possession of illicit arms increased considerably. A feeling of insecurity and unrest was abroad. People generally felt the necessity for some means of defence, and professional criminals sought arms as a means of aggression and used them freely in many of the crimes of murder and violence that happened during the year.

Criminal Justice.

5. The prevalent unrest is reflected in the increase of the total number of offences to 192 thousand in 1921 as against 188 thousand in 1920 and 164 thousand in 1918. Dacoities rose to 187 as against 111 in 1920 and 84 in 1918. There were 668 murders as against 575 in the previous year. Matrimonial cases have increased by 7 per cent. They would not be so serious in themselves but they often lead to bloodshed. A considerable number of murders originate in matrimonial infidelity

or irregular sexual relations. The High Court is, however, of opinion that there is no necessity at present to make registration of marriages compulsory, but that where voluntary registration obtains, the same rules should as far as possible be observed in different districts. In murder cases invaluable assistance has been obtained from the Chemical Examiner to Government, Punjab, especially in detecting the presence of poisons; and from the Imperial Serologist, Calcutta, in determining whether bloodstains are of human or otherm ammalian blood.

Prisons.

6. The increase in crime has filled the jails, the jail population in 1921 averaging 1,000 more than in the preceding year. The tax-payer not only suffers from the increased insecurity to life and property, but his burden is increased by having to find the money required to provide extra accommodation and maintenance for the extra jail population. The difficulty about accommodation has long been serious. Want of funds has prevented the construction of a new Central Jail, and the only actual additions to previously existing accommodation have been the opening of an emergency jail at Montgomery in barracks surrendered by the Army and the construction of a subsidiary jail at the headquarters of the new district of Sheikhupura. But while the buildings are insufficient the area inside jail walls is ample and the surplus of the jail population has been accommodated in work-sheds and tents. The standard of discipline in jails has deteriorated and prisoners have become infected to some extent with the prevailing spirit of defiance of authority. Refusal to work, the shouting of cries, religious and political, and hunger strikes became common during 1921. The hunger strikes are seldom genuine and can generally be stopped by appointing reliable warders to ensure that surreptitions supplies do not reach the strikers. Indiscipline in the Lahore Central Jail culminated in a riot in October when convicts succeeded in reaching and breaking open the wicket of the outer gate, and were only prevented from escaping by the use of fire-arms. During the year the Government had under consideration the report of the Indian Jails Committee and, generally speaking, their recommendations were adopted as far as financial considerations would allow. Partly as a result of the Committee's advocacy of a system of release on probation, but mainly because of the overcrowding of the jails, the Punjab Government have adopted a scheme of revision of sentences, whereby prisoners,

whose conduct in jails has been satisfactory and who can be released without danger to the community, are being discharged after serving two-thirds of the period of their sentence.

Criminal Tribes.

7. The prevalence of serious crime prevented the Police and Magistrates from paying as much attention as usual to the supervision of criminal tribes. The policy of liberating from the restrictions of the Act all well-conducted members of notified tribes was, however, continued, and over 3,500 persons, who were found to be earning their livelihood by honest means, were struck off the registers during the year. As a result of all the exemptions granted the number of persons on the registers at the close of the year was not much more than half the number at the close of 1917. But, though general progress in the work of reclaiming criminal tribes is reported, there is still room for improvement in several districts. In Gurgaon district the conduct of Baurias, Dhinwars and Minas is very bad. The Minas in particular are stated to move about in armed bands and to be a terror to their neighbours. The department in charge of criminal tribes, like all other departments of Government, has suffered from the general financial stringency, and several promising schemes of reformation have had to be postponed.

Civil Justice.

8. Though crime increased in 1921, there was a decrease in civil litigation. It is suggested that one of the reasons for both of these may be found in non-cooperation. That movement has by its impracticable teaching unsettled men's minds and weakened the respect for authority, so emboldening the disorderly elements of society to a greater audacity in crime. It has also, however, by deliberately advising its followers to abstain from applying to the law courts, decreased civil litigation. Other reasons have been noted—(1) scarcity and bad harvests; (2) the increased interest taken by agriculturists in cooperative banks; (3) the tendency to arrange the settlement of claims out of court; and (4) the prevalence of plague and cholera in certain districts.

The Baluch Frontier.

9. The quiet on the Baluch frontier in 1921-22 was in striking contrast to the unsettled condition of the districts adjoining the North-West Frontier Province. There were no raids, and a few murders consequent on a blood-feud cannot be considered

as very serious in view of normal tribal conditions. This state of things is the more satisfactory in view of the continuous scarcity during the summer of 1921. The hill population were reduced to actual starvation, and whole families were living for weeks on wild berries. Even more serious was the resultant exhaustion and depletion of live-stock which forms the capital of the hill people, and their only means of facing future difficulties. The situation was partly saved by good rains in August and September 1921, but a severe epidemic of pheumonia at the beginning of 1922 testified to the lowered vitality of the population.

The Tumandars.

10. The value of the Tumandars to Frontier Administration cannot be exaggerated. It is through their quasi-feudal authority that the Baluch Hills are administered with such ease and economy. Any diminution in their authority, therefore, however otherwise desirable, cannot fail to cause at least temporary dislocation and add to the difficulties of administration. Such a result is to be anticipated from the recent action of one Tumandar, who has entered into a bargain with his *tuman* for the abolition of the *batai jagir* system under which the peasant owners pay a share of the produce to the Tumandar. Once abolished the peasant owners will never suffer its re-imposition, and the example will influence the owners elsewhere to agitate for freedom from *batai*. Though the movement is equitable in itself and in accordance with the democratic spirit of the times, it is to be feared that it may add considerably to the difficulties experienced in administering the hills of the Baluch Frontier.

Tributary States.

11. The democratisation of Provincial Governments under the Reforms Scheme has rendered necessary a revision of their relations with the Tributary States formerly under their control. Consequently on 1st November 1921 the thirteen most important States in the Punjab were placed in direct relations with the Government of India. The only States remaining under the Punjab Government are the Simla Hill States, and the three small states—Kalsia, Pataudi and Dujana. In the Simla Hill States an agitation has been conducted against the ancient custom of *begar* or paid compulsory labour. The Punjab Government undertook in the winter of 1920-21 a complete revision of the existing system on the Hindustan-Tibet Road between Simla and Bushahr. The use of *begar* was practically abolished. Government officers on duty alone

being entitled to secure coolies on the *begar* system, and that only on a very restricted scale. Other forms of labour supplied by the subjects of the Hill Chiefs to their rulers in the Simla States are regulated in most cases by provisions laid down at the last revenue settlement of each State, and there has been a general amelioration at each settlement of the conditions regarding the amount of labour to be supplied and the amount and method of compensation paid for it. The regulation of such forms of labour is primarily the concern of the feudatory Chiefs in whose territory it is customary, but arrangements are being made, in consultation with the Chiefs, to review the existing conditions,

CHAPTER II.

ADMINISTRATION OF THE LAND.

Realisation of the Revenue.

12. A weak monsoon in 1920 followed by a drought till December resulted in rabi sowings 26 per cent. below normal. The light rains that fell in part of the province in January and February 1921 were quite insufficient to redeem the situation. Of the limited sown area 25 per cent. failed. Followed a weak monsoon, which failed almost completely in September when rain is most beneficial. The amount of fixed revenue suspended was inevitably large (30 lakhs out of a total demand of 240 lakhs). That under such adverse seasonal conditions the collections of fluctuating land revenue only fell by 5 per cent. is a remarkable tribute to the efficient working of the canals. The sale-proceeds of Government estates and waste land realised only 26 lakhs (21 lakhs less than in 1920-21). The area in the older colonies, in which proprietary rights have still to be acquired, becomes progressively smaller and smaller as time goes on. Moreover, in the Lower Bari Doab Colony, owing to the bad season, purchasers were fewer, prices were less, and instalments of previous purchases at high prices were not always forthcoming. The rise in the number of coercive processes issued by Lambardars (about 17 per cent.) is not large considering the economic and political difficulties to which they were subjected. Twenty-seven lakhs were paid by money order, a method which is increasing in popularity. Recourse to this system would be even more popular were it not that the revenue-payer has sometimes to encounter the same difficulties in his dealings with Postal officials as beset him under the old system at the tahsil.

Settlement and Surveys.

13. Settlement operations were in progress during the year in five districts. The work on the Multan Settlement has been carried out with commendable punctuality and economy, and has resulted in a moderate enhancement of 5 lakhs or 32 per cent. on the previous assessment. The Punjab Riverain Survey party has completed useful work on the Sutlej and Chenab rivers in connection with the settlements in progress, while the Sind-Sagar party has completed the 100-acre rectangulation work in connection with the Thal project. Sub-rectangulation work by a revenue

staff in the Thal was continued during the field season of the year. Reassessment work was started in November 1921 in two colony areas. Considerable opposition was offered in the Legislative Council to the inclusion of the necessary provision in the budget. Establishments have consequently been severely restricted. This will necessitate closer attention from Revenue Officers to secure that the essential records, on which reassessment depends, are accurately maintained by the permanent staff. Political problems, however, render it increasingly difficult for district officers to exercise the increased supervision necessary.

Land Records.

14. It is a matter for satisfaction that the efforts made to exploit the grievances of Patwaris for political purposes have failed. The work done by them and Kanungos in connection with the elections to the Legislative Council, and the Census, has been of great use to Government, which has spent 5¼ lakhs on increasing Patwaris' pay. Overworked district officials have, however, found difficulty in adequately supervising the subordinate revenue staff, and a curtailed budget has restricted progress in providing housing accommodation for revenue records in villages.

The Canal Colonies.

15. The chief problem of Colony officers during the year has been the discharge of the commitments already undertaken by the Punjab Government in respect of the allotment of land, and in particular the distribution of the reward grants promised to Indian soldiers. In consequence it has been necessary to turn a deaf ear to all proposals for new grants. The Punjab Government has applied to the Government of India for permission to discharge their obligations to military grantees from the land allotted to various cavalry regiments for stud farm grants which, owing to the abolition of the Silladari system, have now been abandoned. In this way it is hoped that a difficult question may be satisfactorily settled. Horse-breeding on the Lower Jhelum Canal has its difficulties. The horse-breeding colonists are compelled to breed a class of animal for the Army Remount Department which is not easily marketable elsewhere Yet Government only purchases one in eight of the foals. born. This indicates a considerable waste of energy and possibly of Government money. Tree-planting grants on the Lower Bari Doab are below average in quantity, and

grantees therefore lack keenness. Still it is hoped that in time the roads will be lined with the avenues of trees, so refreshing to the traveller in this inhospitable country.

Colony Towns.

16. The finances of colony towns have forced themselves upon the attention of Government during the year. On the Lower Bari Doab Canal the towns were constituted Notified Areas at an earlier stage than in the older colonies. Each town has been guaranteed half the proceeds of the sale of sites for five years up to a maximum total which in the case of Montgomery town will be Rs. 3 lakhs and elsewhere Rs. 4½ lakhs. Similar valuable concessions were made in the case of the older colonies. These have, however, given somewhat uneven results. On the Lower Chenab Canal and Lower Jhelum Canal the towns have far outstripped their expected development and additional land has been sold for new quarters which involve considerable capital expenditure on the local committees. Government has under consideration the question of how far additional grants are justifiable. The situation is complicated by the fact that there are several sources from which Municipal Committees derive Government grants-in-aid.

Wards' Estates.

17. For some years past the number of estates under the superintendence of the Court of Wards administration has remained in the neighbourhood of 45 or 50 and their total ordinary income about Rs. 20 lakhs. The year 1920-21 has been no exception. It was a difficult one for the managers of estates. Rising prices raised the total ordinary expenditure from Rs. 20½ to Rs. 24½ lakhs. Reduction of debt fell by ¾ lakh to Rs. 1¼ lakhs, and purchase of Government securities by ¼ lakh to Rs. 1½ lakhs. Recoverable arrears of rent rose from Rs. 1½ to 2¼ lakhs. This is due to consideration shown to tenants hit by drought and bad seasons. Relations with tenants are amicable, and most of these arrears are expected to be recovered at next harvest. Progress in agricultural methods and experiments has been considerably hindered by the nature of the season. Yet Rs. 2 lakhs were spent on permanent improvements. Well-sinking (including two successful tube wells), and the extension of irrigation; tests of seeds and manures; experimental farms; a poultry and stud farm, and a sheep farm—all point to an increasing interest in progressive agriculture. Even failures are valuable as pointing out errors to be avoided in future. Moreover,

the experimnt of combining under a single management all the colony lands in the Montgomery district held by the Ambala Estates, with a eview to cooperative cultivation and the combined purchase of improved implements, marks a new appreciation of Rural Economics.

The Loans Act.

18. The functions of the Loans Act are slowly devolving on the Cooperative Department. Yet in a bad year, such as 1920-21, it was found necessary to advance 35 lakhs taqavi, under the Agriculturists Loans Act, for the purchase of bullocks and seed grains. Another 30 lakhs was advanced by the Cooperative Department for similar purposes. There can be no doubt that the 65 lakhs so advanced has proved to be a determining factor in the return to normal conditions with the aid of the favourable monsoon of 1921. Without this aid recovery after a period of drought must be a long and toilsome task, however helpful the seasons may be. The amount advanced for Land Improvements rose from Rs. 2 to Rs. 4 lakhs, a small total when the needs of the province are considered. It must, however, be remembered that Co-operative Societies have now largely taken over the function of financing improvements.

Value of Land.

19. The value of cultivated land has risen during the last three years to—

	Rs.	
1918-19	184	per acre
1919-20	275	,,
1920-21	345	,,

Comparing these with the quinquennial averages—

	Rs.	
1897—1901	81	per acre
1902—06	79	,,
1907—11	114	,,
1911—16	166	,,
1917—21	258	,,

we see that up to quite recently the rise in value was sufficiently accounted for by the general rise in prices and the value of improvements actually effected. The rapid rise in recent years, however, goes beyond this. It points to an artificial inflation which is not without danger. Land is considered

a safe investment, it brings social prestige; Muhammadans do not consider rent of land as interest. Moreover, the very rise itself stimulates the gambling instinct to buy land anticipating a still further rise. Farming is not regarded from a business point of view; and money is invested in the purchase of land which might better be devoted to its improvement. The whole question is engaging the attention of the Agricultural and Cooperative Departments (*para.* 40).

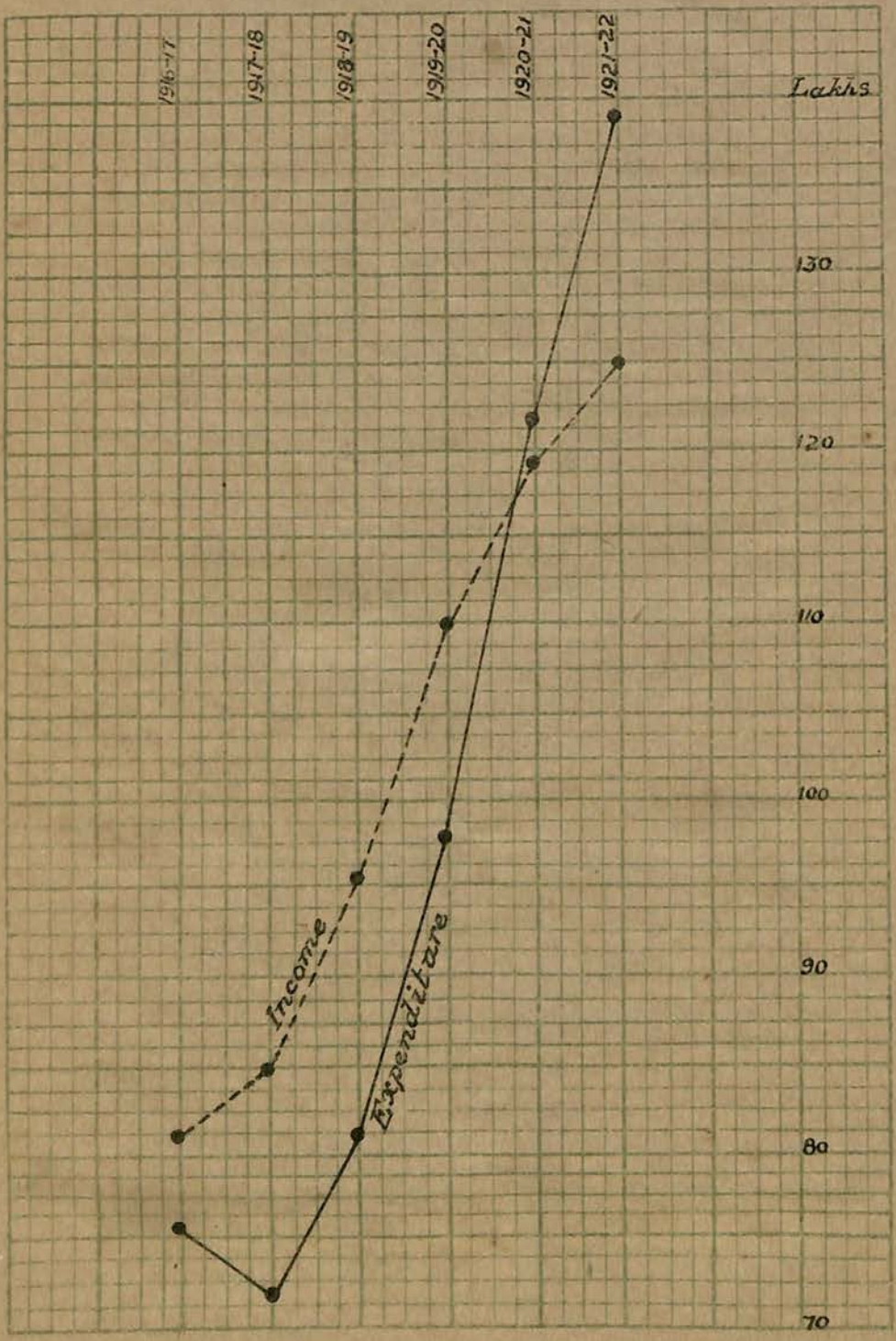
Land Reclamation.

20. The reclamation of the Siwalik range of hills and the reafforestation of not dissimilar areas of low hills and ravines in other parts of the province, is an uphill task, but one in which it is hoped that a policy of patience will be crowned with success. As the result of discussions in the Legislative Council it has been decided to concentrate on an intensive policy, and to treat two small areas at each end of the range by way of demonstrating to the villagers the benefits of reafforestation and closure. It is intended that all extension of these operations in the Ambala district should depend on negotiations with the people; and in order to popularise the scheme an agreement has been made with villagers that they shall receive one-half of the value of the produce, after deducting the cost of upkeep. It is believed that a few years' intensive labour will suffice to convince both legislature and people of the value of reclamation, and that by these means opposition will be overcome, and the people induced to act energetically in their own interest.

GROSS INCOME AND EXPENDITURE OF DISTRICT BOARDS.

Opening balances are excluded.

Up to 1919-20 income exceeded expenditure. Since then expenditure exceeded income, in 1921-22 by a large amount.



CHAPTER III.

LOCAL SELF-GOVERNMENT.

District Boards: Financial Difficulties.

21. As is inevitable in a year of soaring prices, the activities of District Boards during the year 1921-22 have been dominated by the problem of Finance. Higher prices necessitate higher salaries for the staff, higher wages for artisans and labourers working on roads or buildings, and higher prices for building and road materials. But while expenditure has increased almost in proportion to the rise in the prices income remains relatively inelastic. Moreover District Boards have undertaken schemes of expansion in Education, Medical Relief, and in a few cases Communications, without any consideration as to how the recurring expenditure involved could be met. They have been encouraged by grants from Government for capital expenditure on schools, hospitals or roads to imagine that some assistance would be forthcoming if they got into difficulties about recurring expenditure. Moreover as grants are generally made in proportion to the Board's own expenditure, every temptation was given to extravagance. Economy was advocated by no Department, was hardly understood by the members, and was left to the charge of the President, who as Deputy Commissioner had little time to spare for District Board finance from his other multifarious duties. The different services bid against each other in their anxiety to induce expenditure. Education bid highest and got the lion's share ; next came Medical Relief, while Communications were left with what remained over. But now the same high prices which have increased the expenditure of District Boards have affected the finances of Government itself. Consequently the Boards are faced with a twofold increase in expenditure due to the large schemes of expansion undertaken together with rising prices at a time when it is impossible for Government to increase grants. Before any further advance is made it seems therefore desirable to call a halt and take stock of the present financial position.

Possibilities of increased taxation.

22. Next to Government grants, the main source of income is the local rate. This was hitherto limited to a maximum of 20 pies per rupee of Land Revenue. A bill has, however, since passed

the Legislative Council raising the maximum to two annas with a minimum of 20 pies. This will allow for a considerable though hardly adequate increase in income. A serious attempt to broaden the basis of taxation has been made in some District Boards. *Haisiyat* or profession taxes have been imposed on those who do not pay Land Revenue. There are great difficulties, however, both in the assessment and the collection of this tax. The recent removal of the Tahsildars from membership of District Boards has left these bodies with no agency for the assessment or collection of taxes or other administrative duties. Moreover this tax only affects those living outside Municipal or Notified Area limits and does not therefore touch the most important non-zamindars who derive benefit from District Board roads. It will be difficult to collect more than half a lakh in any district, and few districts will realise anywhere near that amount. On the other hand the tax removes a grievance felt by zamindars, that they alone were paying for facilities which others enjoyed; while a legitimate grievance of the *haisiyat* tax-payers that they were taxed without being represented, has now been removed by granting them the franchise. Boards may also take courage from the successful inauguration of the profession tax in the Ambala District in the face of serious opposition organised by the local Congress Committee. An organised agitation was started first for the repeal of the tax, and then to prevent its collection. The District Congress Committee did not overtly advocate refusal to pay, but several local committees went as far as this, and received help from officials of the District Congress Committee. The local officers handled the situation tactfully, and the eventual collapse of the agitation was largely due to timely recognition of the principle that those assessed to this tax deserve registration as electors to the Board.

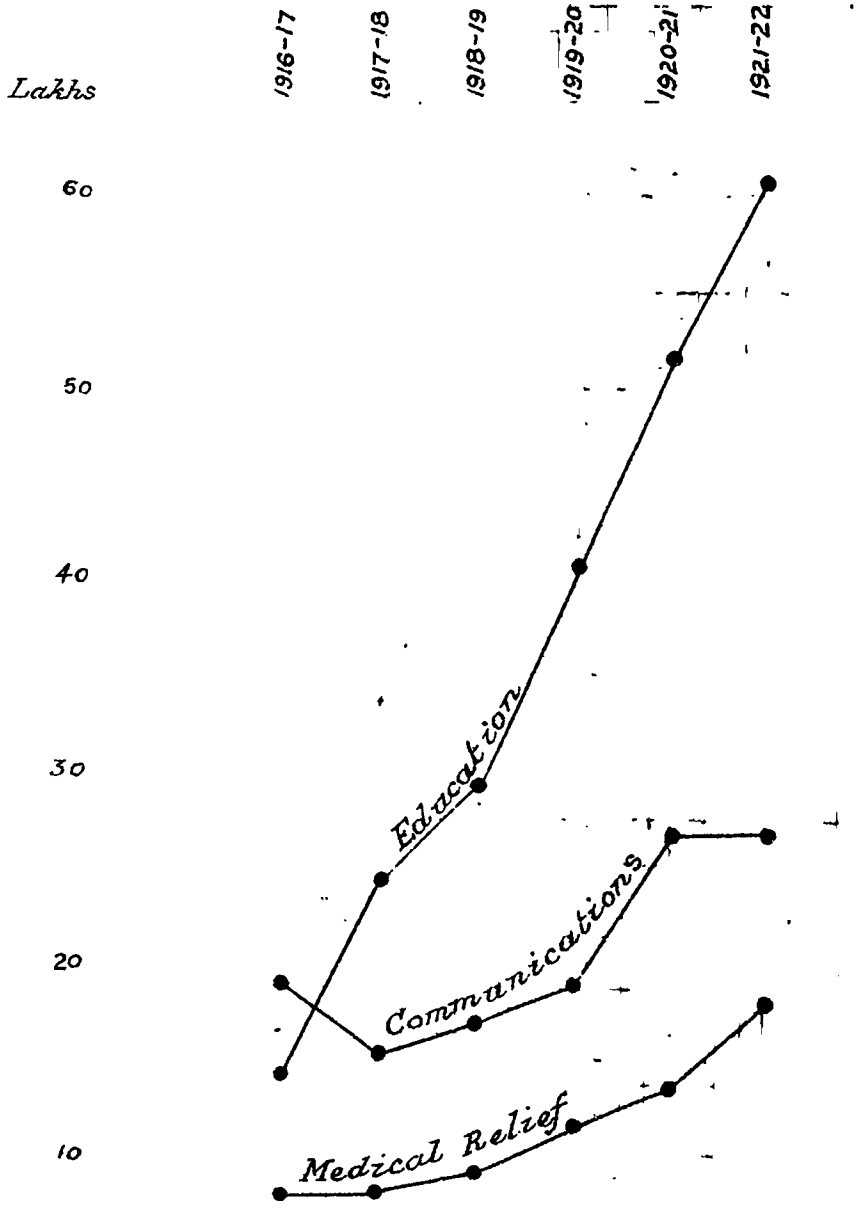
District Boards and Education.

23. It seems, however, unlikely that either of these forms of increased taxation will make District Boards solvent without drastic economies in expenditure. For such economies Education expenditure would seem to afford most scope. For while expenditure on the important heads of Medical Relief and Communications has increased less than prices have risen, educational expenditure has increased fourfold within the last five years. The importance of vernacular teaching has long been recognised, and it was feared that its interests were being overlooked in favour of secondary

MAIN HEADS OF DISTRICT BOARD EXPENDITURE.

(Civil Works expenditure is shewn under these heads.)

Contrast the small and stationary expenditure on Communications and Medical Relief (increase less than contemporary rise in prices) with the large expenditure on Education.



education. To obviate this and to stimulate District Boards to extend vernacular education a quinquennial scheme of expansion was drawn up in 1918. A liberal system of continually increasing Government contributions was to induce District Boards to make proportional contributions towards vernacular education. On the whole the scheme has been eminently successful in its object, and though a few Boards have lagged behind in the scheme, many have gone beyond it. Not only have the numbers of schools been very greatly increased, but there is a marked quickening of enthusiasm for educational progress. That progress in this case should for the moment have involved local bodies in serious financial straits need not be a cause for serious disquietude. But the movement for expansion has now proceeded as far as it can safely go with existing resources, and a short rest is needed to consolidate achievement and to consider the comparative calls of other services. In many districts the supply of schools has outrun the demand, and the increase of schools has not brought a proportionate increase of scholars. Economy is therefore possible without inflicting unnecessary damage on the cause of education. The district of Gujrat has shewn what can be done to increase the number of students without necessarily increasing fresh building charges. In this district no "single-teacher school" was allowed to exist unless the roll numbers reached 40, and no "two-teachers schools" unless attended by 80 students. This system is merely an application of the guiding rule laid down by the Education Department. A number of Boards have passed resolutions in favour of compulsory education, but financial considerations would seem to forbid the carrying of these resolutions into practice. It is probable that sufficient enthusiasm has now been generated to enable the collection of larger private donations. The difficulty felt by almost all Board Schools is the lack of endowment. If subscriptions and contributions could be used to build up endowment funds instead of to meet the expenses of construction and initial equipment, a great obstacle would be overcome. By these methods it may be possible to reduce educational charges to what was formerly considered the reasonable proportion of 25 per cent. of the net income of District Boards.

Medical Relief and Public Health.

24. The abnormal expansion of Education has absorbed funds which were urgently required for Medical Relief and Communications. It was formerly held that Boards should spend 12½ per

cent. of their net income on Medical Relief and this minimum requirement has been more than met. The provision made does not, however, generally suffice to maintain existing institutions, much less to open new dispensaries. Moreover the Boards have been involved in unforeseen expenditure on account of the increase of the emoluments of the medical staff. But the sums levied in fees and donations shew no tendency to increase. Where it is evident that the provision of dispensaries is really popular, a serious effort might be made to win some return for the services rendered. The free grant of medical aid was first made in order to popularise western medicine, but the continued grant of something for nothing must inevitably hamper medical progress, limited as it is by the resources of nearly bankrupt local bodies. The time has come for a systematic effort directed, first, towards the gathering of donations, and, secondly, to the levying of fees in all places where the Medical Department is assured that there is a demand for medical relief. Districts where there is no such demand must now be few. The value to a district of a Health Officer, whose special duty it is to devise improved methods of drainage and sanitation, was particularly demonstrated in Gurgaon where his prompt action cut short a serious epidemic of cholera during the rains of 1921.

District Boards and Communications.

25. But perhaps the most fatal result of District Board financial methods has been the consequent neglect of roads. Two factors have mainly contributed to bring about this position. The first factor is that inherent in modern district board finance, namely, the robbing of Peter to pay Paul. For example, in Amritsar till recently it had been customary to make allotments for educational, medical and veterinary and other services and to leave the District Engineer to do what he could with the balance to maintain communications. The result is that an important through line of communication from Amritsar to Pathankot and Kangra is still blocked by a short 6 miles stretch in the Amritsar district, the remainder of the road having been repaired some years ago. The second difficulty experienced in maintaining efficient roads is caused by the greatly increased cost of maintenance. This is due primarily to heavy freight charges and enhanced wages but in part to the increased wear and tear on the roads, for which heavy motor traffic is largely responsible. The lesson is that, where possible, repairs should be carried out with stone metal

and not with *kankar*. This will be the more necessary in the future as *kankar* beds available in the locality of roads show signs of being worked out and are frequently of the poorest quality. Under the new provincial " Motor Vehicles Plying for Hire Rules "a proportion of the proceeds from the sale of road certificates will be credited to District Board funds in the form of a grant proportionate to the mileage of the metalled roads maintained by them. It is hoped that in this way a considerable proportion of the heaviest traffic will be called on to pay a fair share of the cost of repairs. The Communications Board is devoting serious attention to the improvement of unmetalled roads and a short stretch of the Karnal-Hansi road has been treated with varying and experimental mixtures of sand and clay. If it should prove practicable to adjust the proportions of sand and clay, so as to obtain a durable surface there may be a great future before this kind of road making. It is hoped that it may be found possible to construct roads on this system at a cost of some Rs. 400 a mile.

Arboriculture.

26. Arboriculture is becoming a source of income in submontane districts like Sialkot or Ambala, and to a less degree in Canal Colonies such as Lyallpur. Young trees there require far less supervision than in dryer districts. In such districts moreover there has accumulated a reserve of road side trees, ripe for felling. Care is however taken to replace, and more than replace all cut trees. Coppicing operations in Ambala have proved very successful. Some 200 mis-shapen, stunted or otherwise injured shisham and siris trees, under three feet in girth, were cut flush with the ground, with the result that vigorous sound and straight shoots have sprung up, grown 15 feet in a single year. This method seems to combine the advantages of felling and planting simultaneously. In order to provide trees in the inhospitable land of the Lower Bari Doab Colony, over 12,000 acres has been distributed in tree-planting grants. It is hoped in this way to provide the Colony with well-stocked avenues without the usual initial expenditure.

Constitution and working of District Boards.

27. The reconstitution of all District Boards on an electoral basis, with an increased elective element for those boards which are already partially elected, has now been undertaken by Government and will shortly be complete. With regard to the executive staff also measures of improvement have been under consideration.

Municipalities and Non-Cooperation.

28. Perhaps the most interesting fact to be recorded in Municipal working in 1921-22 is the entry of so-called non-cooperators into Municipal Committees. It is well-known that Congress has placed no embargo on participation in local affairs, and from the political point of view the working of Committees containing a non-cooperating element is of considerable interest and not without its bearing on future happenings in a wider political sphere. Politics are not the business of local bodies, but as the interest shown by Congress men in local administration is largely tinged with their political convictions, this aspect of the case cannot be entirely left out of account.

The influence of the more politically-minded classes on the elections of local bodies is very evident at Leiah, where a tendency was observable for the old candidates to withdraw in favour of Congress men. On the other hand, the elections as well as the proceedings of several Committees indicate a stiffening of the more conservative element which has learned that there is little satisfaction in a simple withdrawal.

Democratisation of Municipalities.

29. The constitutions of all Municipal Committees are under revision. This reconstitution will provide not only for the introduction of the elective system in most of those Committees where it is not already in force but also for its extension wherever it already exists. A distinct awakening is already reported on the part of the members of the larger Committees of the Lahore Division. The Lahore Municipal Committee has made a real attempt to purge its administration of corruption, which was reputed to be rampant among the rank and file. The enlivening of the proceedings brought about by the new element at Lahore has led to a large attendance of outsiders at the meetings of the Committees, and this is in itself a sign of awakening interest. It cannot be said that the members of the newer political school have seriously interrupted the attention devoted by Committees in general to the progress of public undertakings. On the whole it is probable that executive staff have been watched with greater care and jealously than in the past and have been correspondingly stimulated to produce good work. In Lyallpur the Congress members are said to devote keener interest to public affairs than any others. In Hoshiarpur on the other hand a very factious spirit prevails, and a non-official, who has done excellent work as Vice-President and

President of that Committee during the past decade, was forced into resignation.

Municipal Administration.

30. The Municipal Account Code and the rules under the Municipal Act have proved too difficult for the comprehension of the members of the staff of the smaller committees, which are quite unable to engage a Secretary of any education or standing. It is hoped however that the introduction of the Small Towns Act, 1922, may help to remedy this defect, and that an Account Code may be found both simple and easy of comprehension.

Where interest is taken in town planning or Municipal adornment,, it is mainly due to the enthusiasm of individuals. The marked improvement in the City gardens of Lahore is due to the keen personal interest of Mian Abdul Aziz, Senior Vice-President. It is hoped that in time Lahore will rank with some of the best laid out cities in India. It is also the energy and capacity of its President Khan Bahadur Syed Mehdi Shah, C.I.E., O.B.E., M.L.C.,which have given Gojra in the Lyallpur District its reputation as a Model Garden City.

Municipal Finance.

31. In Gojra however, (as in Lyallpur and a few other places) progress is made possible by the imposition of a House Tax. The great majority of Municipalities however still rely on the antiquated octroi system of which the disadvantages are too well-known to need recapitulation. It was hoped that many of these disadvantages might be avoided by terminal taxation, *i.e.*, by a light duty on all exports and imports by rail. This was to be collected by the Railway Administration. It has worked best in districts like Lyallpur where there is no through traffic by road. In towns like Amritsar situated on main high-ways it has been found necessary to replace octroi barriers at main entries by road. This converts the terminal tax into what amounts to a lighter octroi on imports and exports. It does, however, do away with the abuse of refunds, and can hardly affect the trade of a well-established business centre like Amritsar. But the amount which can be obtained from octroi or terminal taxation is limited. Higher rates bring less returns. The maximum limit seems now to have been reached. The total expenditure of Committees exceeded the total income by Rs. 7¾ lakhs. It seems therefore unlikely that Committees will be able permanently to avoid the imposition of a House Tax, unpopular though such a measure would undoubtedly be amongst the wealthier members of the community.

CHAPTER IV.

THE LEGISLATIVE COUNCIL.

Memorable Events.

32. The Legislative Council during the year 1921-22 held three sessions in addition to concluding the adjourned Spring Session of the year 1921. The most memorable event was a visit which His Royal Highness the Prince of Wales was graciously pleased to make to the Council, during his short stay in Lahore. A signed copy of His Royal Highness' speech is kept with the records of the Council. Mr. Butler continued as President throughout the year, but the fact that he was shortly leaving to take up a post in the Government of India was announced at the close of the Budget Session and elicited a unanimous expression of appreciation of his services, and the ability, determination and impartiality with which he had guided the proceedings of the Council. His Excellency the Governor presented an antique mace known as the Rustum Mace to the Council. This gift was cordially welcomed and the mace was at once taken into use.

Work of the Council.

33. The Council held 32 sittings in all during the year, including 7 sittings at Lahore in the middle of the hot weather. During the course of these sittings 1,178 questions were put, and six Bills were dealt with, of which three were finally passed, and 32 Resolutions were discussed. Of these four were moved from the Government benches. The Council also amended its Standing Orders, adopted the report of a Committee regarding the duties and position of the Deputy President and with the assent of His Excellency the Governor 12 Standing Committees on Finance, Canals, Jails, Industries, Co-operative Societies, Public Health, Agriculture, Education, Land Revenue and Police were appointed, each containing a majority of elected members, the rules regarding these Committees being made a part of the Standing Orders. Towards the close of the year the President announced that with certain exceptions the reading of written speeches would no longer be allowed.

The Budget.

34. The Budget was disposed of in six sittings. In view of the unsatisfactory condition of the finances, as disclosed in the Finance Member's Budget Statement, the Council naturally showed a disposition to cut down grants. They acted however on the whole with common

sense and discrimination and readily compromised when Government was able to meet their wishes half way. A great advance has taken place in financial procedure. For the first time the Budget underwent a thorough preliminary scrutiny by the Standing Finance Committee consisting mainly of elected members of the Council. This Committee had itself exercised much influence over the final form which the Budget received, and in the four days' detailed discussion in Council, which sufficed to dispose of all demands, a total of Rs. 38,71,913 was reduced. At the same time a general spirit of cooperation prevailed between the Government and the non-official benches. This development of constitutional control by the Council over the finances, and through them over the policy of the Departments, is a proof of the extensive powers which the Reforms have placed in the hands of the representatives of the people.

Under the head of Excise considerable cuts were made, some members expressing the somewhat sanguine opinion that the agitation against drink shops, which had been a feature of the period immediately preceding the discussion of the Budget, would prove to have had a permanent influence on the habits of classes previously addicted to drink. Perhaps the reductions most open to criticism were those effected in respect of the provisions made for commissions to vendors of stamps, and for continuing the activities of the Fisheries Department. In both cases the grants were drastically reduced against the wishes of Government with little apparent appreciation of the great hardships which would result to those immediately affected or of the effect of such a sudden change of policy. Other notable reductions, all however effected with the consent of the Departments concerned, were Rs. 7 lakhs under Forests, 16 under Civil Works, and 10 under Irrigation. This last item of Rs. 10 lakhs was out of a total Irrigation demand of no less than Rs. 141 lakhs apart from a capital demand of Rs. 143 lakhs, and the fact that this was the solitary reduction proposed is an eloquent testimony to the confidence of the Council in the beneficent activities of this Department. The demands for Education were allowed to pass almost unaltered, also those under the Medical and Public Health heads.

Motions for adjournment.

35. There was only one motion for adjournment for the purpose of discussing a matter of urgent public importance. This related to the situation arising from the extension of the Criminal

Law Amendment Act to the Khilafat, Congress and National Volunteers, and from the application of the Seditious Meetings Act to certain districts of the Punjab. The mover and his supporters adversely criticised the change from a policy of non-interference and masterly inactivity to a policy of repression as unstatemanlike, unwise, and most unlikely to achieve its object. On the contrary, it was said, it would create hostility to Government, and would play into the hands of the Extremists. Opinion, even of non-official members, was however by no means unanimous in support of the motion, and its discussion was still proceeding when the President closed debate under the two hours' rule.

Resolutions.

36. The thirty-two resolutions covered a wide range of subjects. Among the most important was a resolution for the appointment of a Committee by the Government to examine its present assessment and land revenue policy, and to report what changes should be made in it, and, secondly, that no new settlement should be started until the report of the Committee had been published and discussed in Council. Government accepted the first part of the resolution and the latter part was withdrawn on the assurance that any orders passed on the report would be applied retrospectively to any settlements started after the date of the resolution. A Committee was accordingly appointed but had not concluded its labours before the close of the year. Another resolution likely to have important results was that of Mian Muhammad Shah Nawaz asking for a Committee to work out a detailed scheme for the separation of Judicial and Executive functions.

Rai Sahib Thakar Das carried a resolution that political prisoners should be accorded preferential treatment both before and after conviction. Another resolution on a political subject, which was successfully carried, was to the effect that Government should move the High Court to call, under Section 439, Criminal Procedure Code, for records of all cases in which non-cooperators had been convicted, with a view to testing the correctness of the convictions, while one for releasing Sikh leaders and others convicted for holding meetings or making speeches in connection with the question of the keys of the Darbar Sahib at Amritsar was withdrawn upon Government intimating that orders for release were already issuing.

Resolutions directly affecting expenditure included two by Mr. Ganpat Rai. Of these one sought to secure "an

extra 30 lakhs as a special grant to District Boards for the purposes of inculcating free Primary Education within their jurisdiction during the year 1921-22." This was adopted in spite of the Minister for Education pointing out the want of clearness in the wording and the impracticability of the resolution from financial and other reasons. Mr. Ganpat Rai's second resolution, which he carried by 26 votes to 19, was to raise the pay of chaprasis to Rs. 15-1-20 and of Jemadars to Rs. 21—1—25 per mensem.

The resolution regarding the separation of Judicial and Executive functions has already been mentioned. Government's rough estimate of Rs. 15 lakhs per annum as the extra expense involved in carrying this resolution into effect did not prevent its being passed. Mr. Moti Lal Kaistha proposed to raise the daily allowance of members of the Legislative Council from Rs. 10 to Rs. 30. This was carried in an amended form, Rs. 15 being substituted for Rs. 30, and has been given effect to. Government itself brought forward a motion asking for the approval of the Council to their undertaking in the near future certain capital projects and providing necessary funds by loan as required. This was passed without any opposition.

The readiness of the Council to pass resolutions on pet subjects, involving, if given effect to, heavy extra expenditure, in spite of the unsatisfactory condition of the Provincial Finances, gives cause for disquietude and seems to indicate a somewhat reckless outlook. It remains to be seen whether the members will be consistent and show equal readiness to approve of the extra taxation necessarily involved.

Parties.

37. The composition of the House lends itself to the domination of the Muhammadan vote and we find that non-official Muhammadan members with few exceptions steadfastly support the Minister for Education, Mian Fazl-i-Husain. This tendency is to some extent influenced by the question of communal representation, a subject which obtained considerable prominence in the proceedings of the Council. For instance, out of 1,178 questions put during the Sessions under review, no less than 85 had reference to communal representation. Even the favourite subject of education did not really attract as much attention as out of a total of 104 questions put under that head, 33 had a communal basis. The two next most common objects of question were canals and

Police, each giving rise to 33 questions. The great prominence of communal matters is thus clearly shown, and it is further illustrated by a resolution on the same subject which was moved and passed during the November session of 1922. Another noticeable line of cleavage is that between urban and rural interests. The views of town and country members are likely to be diametrically opposed upon such questions as settlement policy, and its bearing upon the incidence of taxation, or again upon such subjects as restriction of export of food supplies, or the acquisition of land for industrial purposes or model towns.

General remarks.

38. The past year has witnessed a decided improvement in the relations between the official and the non-official benches. When the Council first met signs of strain were not wanting on a variety of subjects. Criticism was unsparing and apt at times to assume a somewhat heated character. Sobriety and co-operation are happily becoming more and more characteristic of the proceedings. This change has been brought about by growing appreciation on the part of some of the severest critics of the Government of the sincere desire of official members to make the Reforms a success, and of the difficulties which beset the administration of a province such as the Punjab, especially during these times of unrest. To this result the creation of Standing Committees to advise on all important branches of Government activity has contributed in no small degree. Informal discussion in such Committees cannot fail to bring facts home to the minds of the most critical and foster a sense of responsibility. This improved atmosphere was perhaps most noticeable in the discussion of demands for money. The Budget, as already noticed, was passed quickly and with mutual good will. Members closely scrutinized demands, and insisted upon explanations when necessary to elucidate points of doubt, but with a few exceptions in which prejudice appeared to triumph over common sense the discussions and final decisions showed a realisation of the obligations arising from the powers entrusted to the House. The Council under Mr. Butler's guidance established sound traditions of courtesy and sobriety in debate. Impassioned oratory devoid of matter is less affected than formerly. It must be admitted that there is still a tendency to prolixity, though speeches are now usually concluded well within the time limits laid down by the Standing Orders. Parties are hardly sufficiently defined and disciplined to

eliminate speeches more numerous than the occasion demands and consequential repetition of arguments. On the other hand some constituencies, especially of the rural class, are represented by men who rarely try to catch the eye of the President, and who indeed, through want of knowledge of English and defective education, are unable to follow intelligently the course of debate. To this result the system of Residential qualification has probably contributed. At the close of the first full year's work it may however be stated with confidence that the Council has made an excellent beginning and has risen to its opportunities, that the members as a rule take a keen interest in their duties, and have devoted great time and industry towards the service of the Province both in Council and in Committee.

CHAPTER V.

PRODUCTION AND DISTRIBUTION.

[And he gave it for his opinion, that whoever could make two ears of corn, or two blades of grass, to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together.—Swift. Gulliver's Travels, II-vii.]

The Agricultural Department financial difficulties.

39. In the Agricultural Department, as elsewhere, the financial aspect is fundamental. Research work must be undertaken over a number of years and is expensive. Until, therefore, the Department knows its future allotments with some certainty, it can only embark on schemes of investigation with diffidence. But Budget allotments are made for one year only. They oscillate between generosity and parsimony. A trust fund is, therefore, advocated by the Department as—

(1) important schemes extending over a term of years will stand their chance as against routine improvements;

(2) it will enable the Agricultural Department to see exactly what sum it has at its disposal, and to weigh carefully the merits of different schemes;

(3) the Finance Department would know where it stands.

Some basic problems.

40. Having got funds guaranteed for research, it is proposed first to deal with some basic problems. Until more accurate information is forthcoming as to the yields which the zamindar can obtain by his own methods, it is impossible to calculate accurately the value of the increased yields gained by improved methods. There is good reason to suppose that official estimates of yields are influenced too much by the lugubrious countenance which the farmer all over the world invariably presents to the intelligent and inexperienced enquirer. It is of course true that the personal equation counts for almost every thing, that a good farmer will double the crop of a bad one under exactly similar conditions of soil and climate. It does, however, seem possible by taking the average of a sufficiently large number of holdings to obtain a result which would have an approximate accuracy *as an average*. Having determined the yield of crops under ordinary farming conditions, it would then be necessary to apply statistical tests to the experimental results on Departmental Farms. It could then be determined how far extraneous causes could be eliminated from the results

DIAGRAM I.

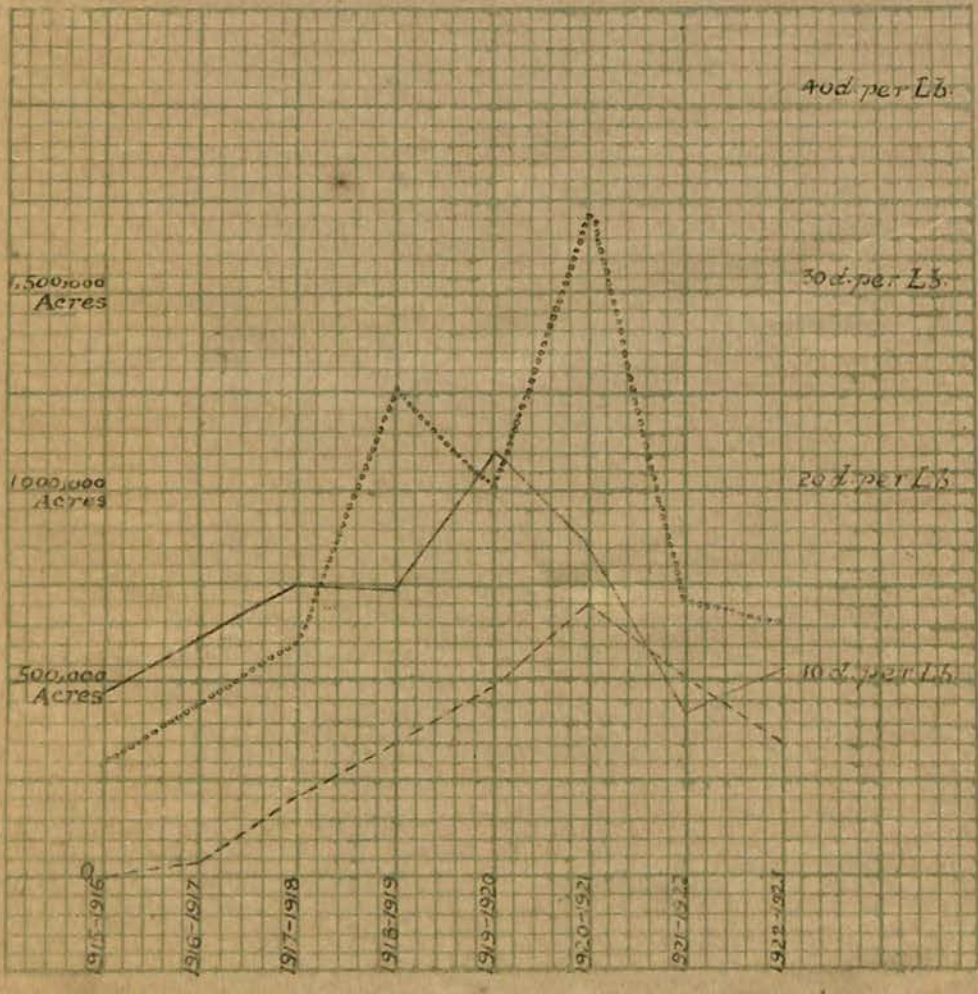
Diagram showing the sown areas of : —

American cotton .....

Desi cotton .....

and annual average price of American Middling Fair in Liverpool in January preceding sowing

in the Canal Colonies of the Punjab.



obtained by improved methods. Attention would then be drawn to the commercial aspect. It is not sufficient to shew that improved methods result in increased yields. It must also be shewn that the commercial value of the increased yield is greater than the extra cost of the improved method. Moreover, if agriculture is to be regarded as an industry the money invested in the purchase of land should pay at least the current rate of interest over and above all expenses, due allowance being also made for bad harvests. English agriculture has always suffered from the fact that the price of land is inflated by the social prestige attaching to its possession. It should be a matter for scientific investigation as to whether similar influences are not responsible for the extraordinary rise in the price of land in the Punjab (*para.* 19).

Punjab American cotton.

41. Such are a few of the basic problems which are exercising the mind of the Agricultural Department today. Meanwhile the specialists are dealing with specific problems of their own. One of the most striking achievements of the Punjab Agricultural Department since its inception has been the introduction of an apparently acclimatized variety of American cotton denominated 4-F. From its use in a negligible area in 1913, it became increasingly popular in the Canal Colonies, till in 1921-22 it formed no less than 54 per cent. of the cotton on all the colony canals, whilst in that year in the Lower Bari Doab no less than 13 acres out of 14 sown were Punjab American. It covered a maximum area of seven hundred thousand acres in 1920-21. Meanwhile the area under Desi (indigenous) cotton was also undergoing an expansion in a smaller degree, consequent on the great rise in cotton prices during the years 1917-18 to 1920-21. The area under Desi cottons in the colonies reached its maximum in 1919-20, when no less than one million acres were under these types, commonly classed together under the trade designation of Scinde-Punjab cottons. But in the last two years the area under both 4-F. and Desi cottons has markedly decreased, once more in sympathy with the drop in cotton prices. Moreover, during the last five years the outturn per acre of unginned 4-F. cotton has shewn a general decline. There is, moreover, evidence that it has also undergone a deterioration of quality in fibre since the 1919-20 crop inclusive. This diminution in yield and quality may be due to progressive deterioration due to the resurgence of impure dominant

characteristics; or it may be due to want of water in the critical months of September and October. The question is an interesting one both from a scientific and a practical point of view.

Rural Economics.

42. The above questions are of a mathematical or scientific nature. The broader question of the application of economics to Agriculture is being tackled by the Cooperative Department as effectively as is consistent with the limited means at its disposal. It has collected a Library on Rural Economics which will compare favourably with any in the world; and the experience of other countries and other centuries is drawn on to assist in solving Punjab problems. The subject is vast. The means at hand are hopelessly ineffective for the greatness of the problems to be tackled. Yet good work is done in investigations which will make clear to a less fiancially handicapped generation the lines on which progress is feasible. The appearance of Mr. Calvert's "Wealth and Welfare of the Punjab" is a sufficient testimony to the research that is being done in Rural Economics, and may prove a landmark in the history of agriculture in India.

Propaganda work.

43. Research is proceeding in scientific agriculture and Rural Ecomomics. As soon as reliable conclusions are arrived at, steps are taken for general propaganda. Apart from the teaching work in Lyallpur College itself (which has now added a course on Agricultural Economics to its curriculum and gives a series of popular lectures on subjects of general interest), propaganda work has been done in the districts. Cattle and religious fairs afford an opportunity for demonstrating improved agricultural machinery, and two Deputy Commissioners in the Ambala Division have personally conducted propaganda, thereby forestalling the criticisms of the agitator that Government takes no interest in the welfare of the people. But the most valuable medium for propaganda is the Cooperative Department itself. A regular course of training in Cooperation and Rural Economics is prescribed for all candidates for the Department, while yearly refresher courses are also held to prevent the staff becoming rusty, and to stimulate the fertility of thought which is provoked by discussion. Ideas ferment and are gradually spread by the staff among the people. The staff is often enabled to overcome popular hostility to measures such as those for the reafforestation of the Siwalik Range

of hills which the people have misunderstood. (*paras.* 20, 54.)

Cooperation and Thrift.

44. It is, however, by preaching thrift that the Co-operative Department is doing what is, perhaps, its most valuable work. It is no longer considered sufficient that agriculturists should deal with Cooperative Societies instead of the money-lender. They are being urged gradually to build up their own capital. How far this has already been done may be seen from the following figures for Agricultural Societies (in lakhs of rupees).

	1920	1921.	1922.
Total Working capital	1,78	2,21	2,53
Share Capital	52	53	52
Reserve	46	52	57
Deposits	22	30	32

Share capital has remained fairly constant owing to the repayments made in their tenth year in societies with returnable shares. The increase in deposits which are all made by rural folk (either zamindars or sympathetic non-agriculturists) is a gratifying tribute to the spread of the idea of thrift. The fact that working capital is increasing in an even greater proportion is due to the spread of the movement to new areas, which have not yet been able to make accumulations. The same idea underlies two other types of societies,—Arbitration and Consolidation of Holdings. The first, which attempt to settle village disputes in a less costly way than by resort to the courts, are now being withdrawn to make way for the new Panchayat Act, but Consolidation of Holdings is making steady progress. The scattered strips of cultivation belonging to each owner in a Central Punjab village are similar in form and in origin to those obtaining in the open-field system of mediæval England. By Consolidation of Holdings it is hoped to achieve in the Central Punjab the agricultural progress that resulted from the enclosures in England.

The Lyallpur Grain Elevator.

45. The Grain Elevator at Lyallpur was commenced in 1913. Its completion in 1922 marks a definite step in the agricultural development of the Province. Certain improvements, such as the provision of subsidiary elevators and the

strengthening of the bins, etc., have been carried out. Some subsidiary elevators were made locally under the supervision of the Electrical Engineer to Government, Punjab, and have been fitted in position. The main function of an elevator is to provide pure wheat of a standardised quality for export and to arrange for its storage till the owner wishes to export. An elevator can, however, only be fully utilised when arrangements are made for loading in bulk on the railway and on shipboard. This is, however, only generally profitable when there is a series of elevators along the railway line through a wheat district. The Lyallpur elevator marks the first step towards this ultimate goal.

Veterinary work.

46. Cattle-breeding has received a serious set-back owing to the difficulty of retaining suitable experts. The whole question of cattle mortality, however, is receiving attention. The total population of bovines and equines together in the Punjab amounts to some 15½ millions, and the deaths among them must amount to not less than 1½ million annually. As the reported causes of death annually account for under 40 thousand, it is clear that we know very little of the real causes of cattle mortality. It seems probable that the cattle population is too large for the amount of fodder available, and that a large number die of weakness. Under such conditions good milking and draught strains are eliminated, and a famine-resisting breed is developed. The question is one of intense interest for the Province, as even the urban population is beginning to feel the diminution in the milk supply. The work of Mr. Cross, the Camel Specialist, is an example of what can be done by science in dealing with practical problems. His investigation of the camel disease, *surra*, and the larvæ which work their way out from beneath through the skins of goats and cattle, and finally his discovery of a new species of fly responsible for the maggot in goats (appropriately designated *Hypoderma crossii*) mark a distinct step forward in Veterinary Science.

Fisheries.

47. The object of the Fisheries Department is to develop fishing as an industry. Its potentialities are enormous, but they are frustrated by the unsatisfactory system which existed till recently. Under this system one contractor took the fishing lease for the whole district, and farmed out the monoply to men of his own choice to the exclusion of the remaining fisher folk living on the riverside. This monoply is being abolished.

The middleman, however, who markets the catch of fishermen on commission, performs a useful function, and will remain. This latter class is being induced to open shops or markets in big towns where there is a constant and regular demand for fish. Legal powers are required for the enforcement of restriction on the size of the meshes of nets, close season, and other measures necessary for the preservation of fish, which are lacking in the old contract system. The licensing system which is being introduced will encourage competition while safeguarding the fish. The chief enemies of fish-preservation are not the professional fishing castes, whose interest coincides with that of the Department, but outsiders, who are not interested in the future propagation of fish, so long as their baskets are well filled for the present.

Weather and crops.

48. Light rain was received in some parts of the Province in the second and third weeks of January and the first week of February 1921. There was no rain in the following three months except occasional light showers in a few places. Climatic conditions were not favourable for the sowing of cane and cotton. In June the rainfall was generally below normal, but the monsoon burst in the second week of July and gave general and sufficient rain nearly all over the Province. It remained very active during the first twelve days of August when a break set in, which, with occasional interruptions, continued till the end of the month. Ample moisture was thus available for the sowing of *kharif* crops other than sugarcane and cotton. During September the rainfall was above normal in the east Punjab and montane and submontane districts, and below normal elsewhere. Useful showers were received in most districts in the third week of October, but the rest of that month and the whole of November were rainless. Climatic conditions were on the whole favourable both for spring sowing, and for the watering of *kharif* crops. In December the north-west of the Province and the sub-montane tracts had good, and the rest of the Province fair, rain. Light rain and cloudy weather in January gave rise to apprehensions of rust in many places, but the showers in February and March were very useful for standing crops. In the south-east, however, between Ferozepore and Delhi, there was practically no rain after Christmas. In April the weather was generally warm, dry and calm, maturing the grain and facilitating thrashing. The appended table explains the conditions of particular crops,

which may be ascertained from the various percentages. As shewn above the both sugarcane and cotton suffered at sowing time. Cotton also suffered from the difficulties attending on Punjab American cotton (*para.* 41). The wheat crop was remarkable, over 8 lakhs tons above normal. Unirrigated wheat, which naturally responds most to seasonal changes, rose from 3 lakhs tons last year to 10 this year. In consequence the price of wheat fell considerably. It should be noted, however, that even in a bumper year like this the average yield of wheat in the Punjab was only ·41 tons per acre as against an average in England of ·84. It looks, therefore, as if there was room for a good deal of improvement in wheat production in the Punjab :—

Crop acreage and weight in 1921.

	Million acres.	Acreage per cent. on normal.	Million tons (bales cotton).	Per cent. on normal weight.
Rice	·8	94	·4	96
Wheat	8·8	96	3·6	130
Barley	1·1	95	·3	90
Jawar	1·2	116	·2	178
Bajra	3·3	141	·4	134
Maize	1·1	94	·4	99
Gram	5·1	117	1·1	125
Toria	·5	143	..	..
Sugarcane	·4	89	·3	85
Cotton	1·1	87	13·	86

Horticulture.

49. The land of the Lawrence Gardens, Lahore, is the property of Government which maintains an expert staff for their upkeep. The detailed maintenance of the gardens is, however, entrusted to a Lawrence Gardens Committee under the presidency of the Director of Agriculture. There is an excellent training class for students in horticulture, and it is unfortunate that local bodies prefer getting local men who are both cheaper and have more local influence to paying a higher price for an expert trained at the Gardens. Such an expert repays his extra salary many times over in better kept gardens and road-side trees. Properly looked after, these road-side trees might prove a permanent source of profit to local bodies. Their value has been testified to in the Canal Colonies by the grant of special allotments on tree-planting conditions. (*paras.* 15, 26.)

The work of the Forest Department.

50. Valuable, however, though it is in its way, road-side arboriculture is unimportant when compared with the gigantic task which the Forest Department is undertaking with inadequate resources. It should be realised that modern scientific forestry aims only at exploiting that part of the forest estate which is represented by the added annual growth of the trees. The capital remains intact and is in fact appreciating in value as the forests are not being worked to anywhere near their full capacity. Every year thousands of rupees are lost to the province because of the natural decay of timber due to the forests being insufficiently worked. The first claim on the forests of the province is that of the agriculturist, and in order to enable him to carry on his vocation the department gave away free or at low rates, in 1921-22, no less than Rs. 30½ lakhs worth of timber, firewood, fodder and grazing. Much of the time of the forest staff was taken up in meeting these demands and in protecting the forest estate from the depredations of those agriculturists who are inclined to help themselves without the leave of the authorities. With no such protection and restrictions the forest would disappear in a very few years' time. For although the forests of the Punjab may rightly be considered as a well filled State treasure house, it must be conceded that this treasure house has and can have no locks on the doors, and the contents are only safeguarded by the vigilance of its State appointed custodians, *viz.*, the officials of the Forest Department.

Forest finance.

51. Even from a purely commercial view point, the department is a paying concern. The cash surplus of the year was Rs. 6¼ lakhs or 14 per cent. on the total expenditure—Rs. 43¾ lakhs. Of this expenditure, however, Rs. 5½ lakhs were spent on capital outlay which in a commercial undertaking would not be debited to revenue. Capital expenditure has to increase year by year if forest property is to be developed as a source of revenue to the province. Government has realised the necessity of improving this side of forest finance, and it is hoped that money for capital works will be found from loans or from a special capital works Forest Account, the interest only being annually debited to the forest revenue account. It is proposed to have the forest system of accounts put into commercial shape by a firm of commercial accountants, and pending the completion of this work the following statements may be taken as shewing

the true financial position for 1921-22 :—

I.—Trading Account.

	Rs. Lakhs.		Rs. Lakhs
Stock of timber, etc., in depôts on 31st March 1921	1·68	Stock of timber, etc., on 1st April 1922 ..	1·18
Stock of tools and plant on 31st March 1921 ..	11·74	Stock of tools and plant on 1st April 1922 ..	13·20
Timber in rivers on 31st March 1921 ..	7·98	Timber in rivers on 1st April 1922 ..	9·51
Good debts (advances) on 31st March 1921 ..	5·12	Good debts (advances) on 1st April 1922 ..	8·23
Revenue outstanding on 31st March 1921 ..	2·05	Revenue outstanding on 1st April 1922 ..	2·11
Working expenditure of year	38·07	Sales of year ..	50·34
Revenue written off or cancelled	0·37		
Gross profit ..	17·56		
Total ..	84·57	Total ..	84·57

II.—Interest.

	Rs. Lakhs.
Capital expenditure from 1912-13 to 1921-22	22·99
Interest at 6 per cent. ..	1·38

NOTE—Capital accounts were only kept separately since 1912-13.

III.—Depreciation.

	Rs.
(*a*) Depreciated value of timber stocks on 1st April 1922, 15 per cent.	17,700
(*b*) Depreciated value of tools and plant on 1st April 1922, 5 per cent. ..	66,000
(*c*) Depreciated value of timber in rivers on 1st April 1922, 20 per cent. ..	1,99,200
Say ..	2,74,000

NOTE.— (*a*) Due to depressed timber market.

(*c*) Due to depressed timber market and also due to losses in rivers by flood, by theft, etc.

IV.—Profit and Loss Account.

	Rs. Lakhs.
(*i*) Gross profit less II and III	17·56 —4·12=13·44

or a 35 per cent. return on the Working Expenditure of the year of Rs. 38·07.

These accounts show that the Forest Department is earning a much better return than its cash surplus indicates. Being a semi-commercial concern it has its ups and downs in common with every trading concern in India and elsewhere. But the fact remains that in its forests the Punjab has a fine investment, which will amply repay any reasonable outlay on its development.

There now remains the question of how the Forest Department spends the money it gets annually to finance its activities. The following is a brief abstract of its accounts for an expenditure of Rs. 43·76 lakhs in 1921-22, arranged according to the accounts sub-head in use :—

Working expenses.

	Lakhs.
I.—Extraction of forest produce by Government	18·96
II-V.—Operations on drift wood in rivers, rent of leased forests, payment of share of forest revenue to right-holders, etc., ..	1·19
VI.—Tools and Plant	2·49
VII.—Roads and Buildings	2·96
VIII.—Protection and development of the forest property	1·89
IX.—Food for forest labour and contingencies	5·47
Total ..	32·96

Sub-heads I, VI and IX totalling Rs. 26·92 lakhs yielded Government a cash revenue of Rs. 33·87 lakhs in the year, and this represents the results of the productive side of an only partially developed departmental working, in a year unparalleled in the history of the timber trade in the Punjab for low prices and depressed markets.

As regards the staff, the following is a brief analysis :—

	Lakhs.
I.—Salaries	7·89
II.—Travelling allowances	1·87
III.—Contingencies	1·04
Total ..	10·80

The working expenses and establishment together come to Rs. 43·74 lakhs from which if the capital expenditure Rs. 5·69 lakhs be deducted the net working expenditure of Rs. 38·07 lakhs given in the Trading Account is arrived at.

Forest communications.

52. The expenditure of Rs. 1·45 lakhs on roads and ·31 lakhs on repairs is all that could be spared under present financial methods, inadequate though the amount is. It cannot be too much emphasised that enormous forest resources in the Punjab Hills are lying, and must continue to lie, untapped or at any rate insufficiently tapped, for lack of roads and paths ropeways, flumes and tramways by which the produce of the forests can be profitably exported to markets. Much can be and is being done out of current revenue, so far as bridle and inspection paths are concerned, but the larger schemes require borrowed capital for development, and it is a matter for congratulation that forest loans are now an accepted principle of forest finance.

Sylviculture.

53. Care for the future is also shewn in the trouble taken over the work of reproduction. Experience has again emphasised the fact that intensive utilisation must be followed by work to assist Nature in the complete restocking of forests. If the forester expends energy to remove a crop sooner than Nature intends, it is necessary for him to expend equal energy in assisting her to replace what he has removed prematurely. Drought and fires, however, undid much of the work of previous years and in fact did an enormous amount of damage. Incendiarism was running riot in the hill forests of the whole of Northern India including Kashmir; and even the high lying blue-pine and fir forests, where fires were ordinarily unknown, were not spared. The Rawalpindi Divisions, however, escaped extraordinarily lightly. The reason for this undoubtedly lies in departmental firing and resin-tapping. Departmental firing meets the wishes of the zamindar, who otherwise burns illicitly at the most inflammable time of the year, while resin tapping works are closed down as soon as a fire occurs in an area under tapping, thus causing loss of high wages to the local villagers employed in considerable numbers on this work. Departmental firing is, however, only suitable in the case of the fire-resistant chir. It cannot be applied to the high hill forests of deodar, blue-pine, and fir, species which are peculiarly sensitive to damage by fire.

Land reclamation.

54. An organised attempt is being made to prevent the continued erosion of the Pabbi Hills and to reclaim areas in those hills, which have suffered severely from this cause. Efforts are mainly directed to a prevention of the rapid flow-off of rain water from these generally barren hills and to the regulation of the flow of water in the large nullahs by means of earthwork dams constructed with a view to the silting up of the stream beds behind them, so that eventually the stream beds will be "stepped" and the rate of flow and consequently of "scour" reduced. "Run off" is prevented by means of a system of ridging and trenching along contours, the intensity of such work being still the subject of investigation. Afforestation of these barren hills is a matter which is also receiving attention. Probably the correct solution of the reclamation problem lies in the formation of a fodder reserve with true afforestation work confined to the more broken ground and the margins of the high lying plateaux. A similar problem confronts the Land Administration Department in the Siwaliks (*paras* 20, 43).

Mines.

55. Compared with its forests the Punjab mining industry is of minor importance. During recent years it has, however, received a great forward impetus from two causes, the discovery of mineral oil in large quantities in the Attock district, and the rise in price and freight of coal from Bengal combined with the difficulty of obtaining it. Mineral oil has been found in only one place in the Punjab so far, but indications of oil have been discovered in one or two other localities. At Rawalpindi the Attock Oil Company have set up a refinery equipped with the most modern machinery and are now placing petrol, kerosene oil, and lubricating oil on the market. The coal mines suffer considerably in certain areas from lack of efficient transport. The coal of the province is generally very inferior and found in shallow seams of $2\frac{1}{2}$ to 3 feet which makes its extraction expensive. One mine at Makarwal across the Indus is, however, an exception. Here a good steam coal is found in seams of 10 feet depth. It disintegrates, however, on exposure to the air for two or three months and this renders it unsuitable for storing. This combined with bad transport facilities handicaps the mine considerably. The Geological Department's report indicates that coal may exist along the whole range where the Makarwal mine is situated, a metter which requires further investigation.

Industries: (a) Power.

56. Before any marked industrial developments can take place in the Punjab (*a*) cheap power, (*b*) transport and marketing facilities, and (*c*) technical education must be provided. As has been seen (*para.* 55) the local supply of coal is inadequate. Coal is mainly obtained from Bengal at an average price of Rs. 25 a ton, more than half of which is composed of freight charges. This heavy freight charge puts manufacturers in the province at a great disadvantage when competing with those who are nearer the source of supply. It is doubtful if, with this great disadvantage, they will ever be in a position to compete with their manufactured goods in the world's markets. It is therefore imperative if the province is to advance industrially that the development of the hydro-electric power, which exists in the province, should be expedited.

(*b*) Transport and marketing.

57. Railway transport facilities have improved during the year. The question of providing sidings to large mills and factories still, however, remains acute and requires careful handling. For the efficient marketing of agricultural products tramways are being considered and the Tramway Engineer has been fully employed in making surveys and detailed reports for agricultural tramways in selected areas of the province. The detailed report for the construction of tramways in the Lyallpur District was considered by the Communications Board. In that district improved transport is urgently required, and the prospects for a self-supporting tramway are good. The district is one of the most agriculturally progressive in the Punjab, and special marketing facilities are being developed by the Cooperative Department. The marketing of cottage industrial products is being facilitated by the establishment of the Arts and Crafts Depôt in Lahore. Here inlaid brass and ivory work, painted and chased lacquer work, pottery, damascened metal work, brass and *kansi* work, silver and enamelled jewellery, turned and carved ivory, basket work, carpets, embroidery, printed goods, silks and numerous other works of art manufactured in all parts of the Punjab are collected and offered for sale, thus providing a regular market to many cottage workers, whose artistic faculties might otherwise "waste their sweetness on the desert air".

(*c*) Technical education.

58. Artistic work of this type will always hold its own. In industrial Middle schools carpentry enlists three times the number of all the

other crafts put together. This preponderance over the smith's art can only be understood when it is considered that the best wood-work can be done by hand tools only, but the best metal work requires for drilling, turning, screw cutting, polishing and fitting either foot or motor power machines which none of the schools possess. In the Government Railway Technical School, where machine tools are used, the craft of the smith enlists the larger number of students. The two remaining crafts, that of the copper-smith and weaving, are both crafts that are better taught in the bazar, and the Industrial Schools give no advantage either in improved machinery or design. Apart from these beginnings facilities for technical education of a very thorough kind in mechanical and electrical engineering, motor car work, tanning, dyeing and boot and shoe manufacture will shortly be available to the people of the province, as special institutions for these purposes are under construction or have the approval of Government. Much has been done and more might have been done, but for the inherent restrictions and inevitable delays entailed in carrying on the work of a buisness department in accordance with Rules, Regulations, Codes, Standing Orders and Secretariat procedure generally which are not designed to meet the conditions necessary for its efficient progress.

Rail and River-borne Trade.

59. An agricultural province like the Punjab mainly exports raw products and imports manufactures, the chief port of the Punjab being Karachi. Normal conditions were upset during 1921-22, by the scarcity of food-grains, especially wheat, and during that year the Punjab imported Australian wheat to the value of Rs. 5·2 crores as against Rs. 4·0 crores wheat exported. The slump in English trade in 1920-22, which followed the post-war boom in 1919-20, is shewn in diminished exports of raw cotton and hides. Raw cotton exports fell from Rs. 10·3 crores in 1919-20 to 4·5 in 1920-21, while hides and skins fell from Rs. 2·4 crores to ·7 and ·8, respectively. The same trade conditions, enhanced probably by the swadeshi and non-cooperation movements, affected the import of English cotton manufactures. Foreign manufactured cotton imports fell from Rs. 6·1 crores in 1919-20 to 4·3 in 1920-21 and 2·8 in 1921-22, while Indian cotton manufactures rose from Rs. 9·3 crores to 15·7 and 11·7, respectively. The necessity for machinery to make up the leeway lost during the war explains the rise in iron and steel manu-

factured imports, (mainly British) from Rs. 3·1 crores in 1919-20 to 4·7 in 1920-21 and 4·2 in 1921-22. Like India as a whole (but to a far greater extent) the Punjab is unable to produce her own sugar requirements. Sugar imports (mainly from the United Provinces and Java) rose from Rs. 6·4 crores in 1919-20 to Rs. 9·6 crores in 1921-22. Kerosine oil from Burma (Rs. 1 crore), timber from Kashmir (Rs. 1·7 crores), cotton seeds for cattle fodder from the United Provinces (Rs. 1·3 crores) are other raw products which the Punjab has to import. The average absorption of gold and silver bullion by the Punjab amounts to Rs. 5 crores. In the scarcity year 1921-22, however, in order to finance the import of food-grains, this absorption ceased and a net amount of value Rs. ·7 crores was exported.

The North-Western Railway.

60. The total capital expenditure during the year on the North-Western Railway was Rs. 180 lakhs, of which Rs. 52 lakhs was on rolling stock. The gross earnings fell slightly from Rs. 13,05 lakhs in 1920-21 to Rs. 13,02 lakhs in 1921-22, heavy losses on the transport of wheat and other food-grains cancelling an all round increase under other heads. Working expenses, on the other hand, rose from Rs. 10,03 to Rs. 12,61 lakhs, so that net earnings fell from Rs. 3,02 to Rs. 41 lakhs or from 3·1 to ·4 per cent. on the capital outlay. The small net earnings are due to the decrease in the wheat trade, caused by high prices and the embargo on export. Receipts from wheat transport fell from Rs. 1,28 lakhs on 1·26 million tons in 1920-21 to Rs. 55 on ·57 million tons in 1921-22. The figures for the total wheat traffic to Karachi and the receipts therefrom for the last four years are eloquent.

	Tons (millions).	Rs. (lakhs.)
1917-18	1·17	1,74
1918-19	·52	69
1919-20	·09	11
1920-21	·48	72
1921-22	·06	10

The wheat traffic is far the most important business done by the North-Western Railway. The increase of refined sugar traffic from ·07 to ·18 million tons bringing in 12 and 36 lakhs respectively is due to a reduction in prices leading to a more extended consumption. Slight increases in the traffic of stone and timber are due to large Public Works Department and private requirements for roads and building

purposes. The general increase under all other heads than wheat and the leading food-grains shows that a great improvement in receipts may be anticipated when the fortuitous reasons which led to the losses under those heads have been removed.

Facilities for passengers.

61. The total number of first and second class passengers travelling in 1921-22 was much the same as in the preceding year. But the number of intermediate passengers has declined from 3·82 to 3·48 million while third class passengers have risen from 64·04 to 69·28 million. The importance to the railway of third class traffic is shown from the fact that while the receipts from first class passengers were Rs. 21 lakhs; second class, Rs. 37 lakhs, intermediate Rs. 52 lakhs, third class traffic brought in no less than Rs. 4,78 lakhs. The increase in third class traffic is mainly due to the improved facilities introduced by the Railway authorities. The convenience and comfort of third class passengers have been receiving special attention. Vendors' stalls and their wares have been much improved and price lists are exhibited by the vendors on their trays. On all the larger stations an approved form of platform barrow has been introduced for vending Indian sweets and refreshments in which the wares are enclosed in glass cases to protect them from dust and flies. At many stations vegetarian food is available on separate trays for those desiring it. Tea stalls under the supervision of the Tea Cess Committee have been introduced at several stations and are much appreciated at all important stations. Charitable bodies have been given permission to distribute water freely to passengers in trains. Their arrangements are separate from and in addition to those made by the Railway. Additional water taps are being provided at all the large stations where train halts justify this being done, and an improvement in the supply of water has also been effected by concentrating extra hot-weather establishment at those stations, thereby rendering the supply of water to passengers more expeditious. Experiments are also being carried out with various types of cold water storage arrangements at stations. Additional Hindu and Muhammadan Refreshment Rooms are being opened at stations where they are considered to be necessary and additional waiting halls and passenger sheds are also being constructed. Generally speaking, though there is room for improvement in arrangements for

the comfort of third class passengers, a great advance has been made. Overcrowding of third class carriages is being carefully watched. Unfortunately some overcrowding in particular trains on certain sections appears inevitable. Every section of the line has its popular and unpopular trains and, with very few exceptions, trains which are popular and therefore overcrowded on certain sections run comparatively empty or only comfortably full on other sections. To run additional trains to relieve such local overcrowding often means a waste of stock after the train has got beyond the section on which its timings suit the requirements of the local public. When possible, additional carriages are run on such trains over sections where overcrowding occurs, but this cannot always be done as most trains are already running with the maximum load the engine can haul and the capacity of sections is heavily taxed.

It is worth noting that notwithstanding the position as regards coaching stock the total number of passenger trains now running on the North-Western Railway is only two less than it was in pre-war days. This does not mean that the train service on all sections has returned to its pre-war strength as on some sections more and on others fewer trains are now running than previously. It indicates, however, that the coaching stock available is being made full use of.

Improved statistical methods.

62. The North-Western Railway has also shown the lead to other railways and other Government Departments by the introduction of a scientific method of keeping railway statistics. Apart from the clerical drudgery involved, the ordinary method of keeping statistics by accounting suffers from the fatal defect that once any system of classification is adopted, that system must be maintained all through, and correlations of other facts can only be obtained by tedious accounting which may also be inaccurate. By the method now introduced all the facts relating to the goods traffic between two stations in a particular month are perforated on a card. By the mechanical method introduced it is then possible to sort out the cards by months; by years; by stations; by trade blocks (the area between two rivers constitutes a trade block); or by commodities; and to add up such facts automatically. It can also be seen at a glance between which stations trade is large and profitable. And any required combination of information can be obtained automatically.

For example, the total weight of wheat sent to Karachi in July from all stations could be abstracted at once by machinery. This method, designed in America, was first introduced into England in 1914, and has been utilised by some of the largest businesses there. It has been adopted by the British Government for the 1921 British Census. It was first introduced into India by the North-Western Railway in June 1922. The value of this method for correlating statistical information cannot be overrated.

Trans-Frontier Trade.

63. The trans-frontier trade of the Punjab is relatively unimportant, the total imports and exports averaging only Rs. 22 and 41 lakhs, respectively, in the last three years. The fact, however, that it pays to carry on trade at all over the difficult mountain paths which constitute the frontier trade routes indicates sufficiently the possibilities of development with improved communications. This is particularly true of the trade-routes to Tibet, *via* Kulu and Simla. As contrasted with the normal trade of the Punjab, the trans-frontier trade is generally characterised by import of raw-materials and the exports of manufactured products. Of the latter the trade with the Central Asia is by the far most important part, imports being 64 per cent., and exports 89 per cent., of the total trans-frontier trade. Of the imports charas and raw silk are the most important amounting to Rs. 12 and 27 lakhs, respectively, out of total imports of Rs. 44 lakhs in the triennium 1919-22. An usually large quantity of charas was imported in 1919-20. The preceding harvest had been good and it was generally known that the duty was going to be enhanced with effect from 1st April 1920. In 1920-21 also imports were comparatively heavy as charas continued to command a high price in the Punjab. In 1921-22, in which the duty on charas was twice enhanced, imports were not as heavy as in the preceding two years, but heavier than in any of the years 1911-19. Raw silk is produced in Khotan which depends for its supplies of a silk seed on Russian Turkestan. In 1919-20 no seed could be obtained from thence and there was a large decrease in production in Khotan and in imports with the Punjab. In 1920-21, production was exceptionally good in Khotan, and there was a large increase in imports. They fell off again, however, in the following year, owing probably to a fall in the price of silk in the Punjab. As prices have risen the rupee value of silk imports has risen in the triennium 1919-22 by 18 per cent., though the weight has

fallen 47 per cent., as compared with the preceding triennium 1916-19. This phenomenon of diminished volume disguised by inflated prices is characteristic generally of trade with Central Asia, where the unsettled conditions due to Bolshevik expansion are beginning to make themselves felt. It applies also to exports of cotton piece-goods (mainly European) which constitute Rs. 45 lakhs out of a total export of Rs. 1,12 lakhs in the triennium 1919-22. The decrease in export is due to a considerable development of weaving and other industries in Yarkand, and is accompanied by a corresponding increase in exports of twist and yarn. The same cause partly accounts for the remarkable increase in the exports of paints and colours (Rs. 20 lakhs as compared with 2 lakhs in the last triennium). It is also due to the fact that no supplies of aniline dyes can now be obtained through Russia. Manufactured silk, another important export (Rs. 10 lakhs in this triennium), has declined 40 per cent. in volume, partly owing to the scarcity of velvet and satin—the principle articles of export under this head—and partly to an increasing preference in Tibet for indigenous articles. Exports of all other articles of merchandise were stimulated by a fall in their prices in India. The balance of trade with Central Asia in favour of the Punjab was Rs. 68 lakhs. The net imports of treasure amounted, however, to only Rs. 18 lakhs. It is an interesting problem as to how the remaining balance is met. Possibly through Tibet, where there is an adverse balance of Rs. 20 lakhs in the triennium, only partially covered by a large export of silver coins *viâ* Simla and Kangra. The most important import is raw wool (Rs. 17 out of a total of 21 lakhs in the triennium). This trade can hardly increase unless the export trade (only Rs.1 lakh in the triennium) is stimulated. Improved communications should do much to further an acquaintance with and a desire for the products of civilisation among the inhabitants of Tibet. Exports to Afghanistan, mainly cotton piece-goods and manufactured leather, amounted to only Rs. 12 lakhs in the triennium. Imports thence were negligible (only Rs. 2½ lakhs).

Public Works Department (Buildings and Roads): under the Reforms.

64. The total expenditure on Public Works in the Buildings and Roads Branch during the year amounted to Rs. 136 lakhs, an increase of Rs. 12 lakhs as compared with last year. The work carried out by the establishment was very considerable. The alterations in methods of expenditure due to the inauguration of the Reforms has

thrown a great deal of extra work on the administration of the Department. It has been found necessary to revise methods of budgetting and of means of exercising financial control. A very large amount of design and estimate work, which was carried out during the year, has moreover proved fruitless owing to want of funds.

Working of the Public Works Department.

65. During the year 1921-22 the high cost of labour continued. The price of imported material such as iron and steel fell, however, owing to the release of large stocks in Great Britain and to competition in the foreign market. On the other hand, on account of the increased price of Indian coal, labour troubles, Railway strikes, and increase of freight charges, general costs remained as high as in the previous year. These were reflected in the high cost of bricks so that building costs were on the average slightly higher than in the year 1920-21. The Attock Oil Company's Refinery at Rawalpindi was opened in February 1922 by His Excellency the Governor. It is hoped that a plentiful supply of fuel will be obtained from thence which will relieve the Province and the Public Works Department from many difficulties resulting from its dependence upon coal from distant localities. Experiments with oil burning installations on steam road rollers are being carried out and the application of oil to brick burning will be considered.

The building work of greatest general interest related to the new District Headquarters at Sheikhupura. The completion of the District Court buildings and the Treasury enabled the Headquarters personnel of the district to move to the new station. Essential roads in the Civil Station were metalled and roadside trees were planted over a considerable area and irrigation was provided for them. The general lay-out of the station and the individuality in design of the buildings are a testimony to the excellent work and originality of the officers of the Public Works Department and the Consulting Architect of the Province. It is hoped that when the scheme approaches completion the new Civil Station will compare extremely favourably in utility, appearance and healthiness with any district headquarters in the plains.

Important work has been done in improving and bridging gaps on the various sections of the Grand Trunk Road thereby rendering communication possible throughout its length under all seasonal conditions. Bridges were also

made on the Hindustan-Tibet Road and the Rawalpindi-Murree Road. The completion of the new cart road from Fatehjang to the oil fields at Khaur has enabled Attock oil to be put on the market at a reasonable price. Arrangements are being made for providing stone for all roads in the Province by the acquisition of the stone quarry at Serai Kala and the provision of a railway siding. Negotiations for the purchase of other quarries and for obtaining stone from other localities are also in progress.

Working of the Canals.

66. The scarcity conditions prevalent in the summer of 1921 with the consequent danger of fodder famine rendered it necessary to provide extra water for fodder crops at the expense of staple and more valuable crops such as cotton and sugarcane. Thus while the area of irrigated cotton fell from 1·4 million acres in 1920 to ·9 in 1921, that under the main fodder crops rose by the same amount from 1·0 to 1·6 million acres. Like the Forest, the Irrigation Department does not take up a narrow profiteering attitude when a question of public benefit arises. In such cases revenue is gladly sacrified to the public good. The total canal irrigated area rose to 10·5 million acres which is equa to the total ploughed area of England and Wales. This marks an increase of 2 million acres (or 25 per cent.) in 2 years.

Irrigation Finance.

67. The total capital expenditure was Rs. 25½ lakhs of which Rs. 6½ lakhs was spent on the older canals, Rs. 14 lakhs on the five colony canals and Rs. 4 akhs on the construction of the Sutlej Valley Project. Rs. 3 lakhs were realised mainly from the sale of surplus stores, etc., rendered available by the completion of works on the Triple Canals and from colonists on account of watercourses which Government had built for them in order to secure rapid development of the Triple Canal system. Deducting this, the net capital expenditure amounted to Rs. 22½ lakhs. Gross receipts amounted to Rs. 530 lakhs as against an average of Rs. 460 lakhs in the previous triennium. But working expenses had also risen to Rs. 181 lakhs from a corresponding Rs. 137 lakhs. This is mainly due to a general increase in cost of labour and materials and pay of establishment (*para* 76) and also to some special works which were carried out on some of the canals out of revenue in addition to the ordinary maintenance of and repairs to headworks, main line, branches, distributaries, buildings, plantation and silt clearances. Thus the net revenue in 1921-22 was only Rs. 26

lakhs more than the average of the previous triennium, though the canal irrigated area has risen from 9·3 to 10·5 million acres in the same period. The Punjab canals are a valuable asset of the country, growing in importance and value daily, so much so that in dry seasons when the demand is very keen they are strained to their utmost carrying capacity to secure protection against failure of the harvest. High maintenance charges are necessary to ensure the running of high supplies and these increased charges can only be met in the near future by increasing the water rate, especially in the case of these canals on which the water rates have not been revised for many years. In the case of the Upper Bari Doab Canal the present water rates have been in force for the past 30 years. Government has now to pay a higher rate of interest on borrowed money and there is also a serious deficit in the Budget. It is for these reasons that proposals have been made to raise the Irrigation water rates (*para* 84).

New Projects: The Thal Canal Project.

68. The magnificent work already accomplished by the Irrigation Department foreshadows even greater results in the future. Two great projects are under consideration, the Thal Canal and the Sutlej Valley Projects. The Thal Canal Project provides for the construction of a perennial canal offtaking from the Indus at Kalabagh. This will irrigate the Sind Sagar Doab. It will cover a gross area of 5 million acres (nearly one-half the arable area of England and Wales) with an irrigated area of 2 million acres. The project is estimated to cost a Rs. 9¼ crores and to yield a return of about 18 per cent. on the total capital outlay.

The Sutlej Canal Project.

69. The Sutlej Canal Project is further advanced. There is on either bank of the Sutlej a long series of inundation canals which draw their supply from the river whenever the water level is high enough to permit of it. These canals are liable to all the drawbacks which invariably attend inundation irrigation. There are no weirs at their heads and, in many cases, there is no means of controlling the volume of water entering them. Consequently, while a supply is assured in a normal year during the monsoon months, it is liable to serious fluctuations due to seasonal conditions. In a year of inferior rainfall little water enters the canals; in a year of high supplies they are liable to serious damage by floods.

The Sutlej Valley Project will effect three objects. Firstly, it will afford the existing canals an assured and controlled supply from April to October. Secondly, it will enable their scope to be extended so as to embrace the whole low-lying area in the river valley. Thirdly, it will afford perennial irrigation to the uplands on both banks which are at present entirely unirrigated and owing to the low rainfall, practically all waste. The project consists of four weirs, three on the Sutlej and one on the combined Sutlej and Chenab, with ten canals taking off from above them. This multiplicity of canals and weirs may seem, at first sight, a peculiar feature of the scheme, until it is realized that the project really consists of four interconnected systems each of the first magnitude. The canals are designed to utilize 48,500 cubic feet of water a second during the monsoon and 7,000 cubic feet a second during the cold weather. Over 5 million acres will be irrigated of which 2 million acres will be in the Punjab, 2,800,000 acres in Bahawalpur, and 350,000 acres in Bikaner. As a result $3\frac{3}{4}$ million acres of desert waste will become available for colonization.

After receiving assurance that the project had been approved by the Punjab Legislative Council and that the Punjab Government and the States concerned were in a position to finance the scheme, the Secretary of State on the 9th December 1921 sanctioned the immediate commencement of work upon it. The project is now being administered by a separate Chief Engineer appointed to the post. A further project, the Bhakhra Dam Scheme, is also under consideration.

The Discharge Division.

70. In connection with these projects a new Discharge Division has been formed under the direct control of the Chief Engineer. The object aimed at is to gauge the discharges of all Punjab rivers at various sites on each so as to obtain as accurate results as possible for a determination of the natural supply in the Indus and its tributaries and of the diminution or increase which takes place in these supplies on the withdrawal of water for irrigation in the Punjab and the drainage of a portion of such withdrawals back into the rivers. Information will be obtained as to the losses or gains which occur from absorption or percolation in flow with special reference to the supplies which are available in the Indus River for distribution between the Punjab and Sind. Current meters are now being provided at the more important sites and it is hoped that a high degree of accuracy will be obtained. The

scope of the division is being extended so as to include research work of practical utility. The work of other branches of the Department will also be co-ordinated to this aim.

One of the chief practical difficulties of canal irrigation is the equitable distribution of water-supply. If land-owners would cooperate, payment for water by volume instead of by area irrigated should prove a more satisfactory method both for them and the Irrigation Department. Special contracts on these lines were entered into this year with three land-owners on the Lower Bari Doab Canal and it is hoped that this method may become increasingly popular.

Waterlogging.

71. The evil of waterlogging is being tackled by the Department. It is very difficult to prevent seepage from high level canals passing through low lying country. The method adopted is to intersect such areas with surface drains and so to divert the seepage water into natural drainage channels. Local zamindars, however, more anxious for their own personal profit than the public good, sometimes hamper this work by putting obstructions in the drains in order to secure flow irrigation during the *kharif*. Since the construction of these drains there has been a marked improvement and areas previously waterlogged are again coming under the plough.

CHAPTER VI.

REVENUE AND FINANCE.

[See'st thou good dayes? Prepare for evil times: no summer but hath his winter. He never reaped comfort in adversity that sowed it not in prosperity.—Quarles.]

Pre-Reforms Finance: the system "Divided Heads."

72. The importance of the financial side of administration is often apt to be overlooked. Finance is indeed but a means to an end; good Government. But it is a most essential means. Its working may be compared to that of the stomach in the individual; classed in an inferior category to the mind, soul, and spirit, but apt, if it ceases to function properly, to throw higher activities out of gear. Financial independence is one of the first privileges of self-government, and the Punjab, like other Indian provinces, is now facing the responsibilities which accompany all privileges. This is the final outcome of a gradual process by which the extreme financial centralisation which the Government of India inherited from the commercial methods of the East India Company has disappeared. All revenues originally went into the coffers of the Central Government, and all but the most trifling expenditure had to be defrayed under its orders. From that primitive condition evolved the system of 'divided heads.' From the necessities of their position the Government of India were responsible for the defence of the whole country, for certain great commercial departments, such as the railways and the post offices; for the administration of certain areas for strategic reasons such as the Frontier Province; for diplomatic business and relations with Indian States; for the service of the debt and for all audit and accounting. They also assumed the liability for insuring the provinces against the one great catastrophe which from time to time threatened their stability in the shape of a failure of the rains and subsequent famine. For these purposes the Central Government took the receipts from the sources of revenue which it directly controlled; and also certain other revenue, such as salt, customs, and opium, of which the locale of origin is no guide to its true incidence. But these resources by no means sufficed for its needs and the deficit had somehow to be made good. The system of 'divided heads' attempted to secure for the Government of India an adequate revenue from sources of income under Provincial control without depriving the provinces of the stimulus to careful

management which a share in the proceeds would afford. Half the revenues from Land Revenue, Stamps, Excise, Income-tax and Irrigation were taken by the Government of India. Against this it paid three-quarters of the expenditure on Famine Relief, and half the expenditure on Irrigation (in which was included the interest on the loans raised by it for capital expenditure, *i.e.*, expenditure on the construction of Canals). In addition to this the Provincial Government received large sums (frequently referred to as 'doles') by way of assignments from Imperial to Provincial revenues. These were generally for specific objects such as Civil Works, Agriculture, or Education. In the year 1920-21 they amounted to over Rs. 50 lakhs recurring and Rs. 5 lakhs non-recurring.

The Reforms Scheme: abolition of 'Divided Heads.'

73. This state of affairs has passed away as a result of the changes introduced by the Montagu-Chelmsford Reforms. The authors of the Reforms had urged the necessity of complete separation between the finances of the Central Government and those of the various Provincial Governments. Their main recommendations were that no head of revenue should continue to be divided, and that Land Revenue, Irrigation, Excise and Judicial Stamps should be completely provincialised. To these General Stamps were added by a Committee appointed in January 1920, leaving Income-tax only for the Government of India. In order to give the provinces a slight interest in the collection of this tax also, they will be entitled to 3 pies on each rupee of the increase in the assessable income over and above the income taxed in 1920-21. The amount so obtained however is trifling only Rs. 2¼ lakhs being budgeted under this head in the Punjab in 1922-23. Responsibility for famine insurance is also thrown on the provinces. The Punjab, however, being well protected by its great irrigation works is only subject to an annual charge of Rs. 3¾ lakhs as against the 63½ lakhs due from Bombay. Finally, the Provinces were given complete freedom to draw on their balances, the accumulated savings of ten years. The Punjab balance of Rs. 139 lakhs has however been converted in only one year into a deficit of 90 lakhs.

The Provincial Contribution.

74. Under this rearrangement, however, the Government of India would lose heavily. It has therefore been necessary to get contributions from the provinces; and here the difficulties began. It has been arranged that the ultimate contributions from

the provinces should be roughly in proportion to their wealth, and so while Bengal will pay 19 per cent. of the total provincial contributions, the Punjab will be only liable for 9 per cent. But in view of the difficulty to a province like Bengal of immediately adjusting her finances, this scale is only made an ultimate goal, the immediate charges being proportioned to the estimated relative burdens under the old system. Thus while the Punjab is now charged Rs. 175 lakhs, Bengal was only assessed at Rs. 63 lakhs and even this sum has been remitted for three years.

Advantages to Punjab.

75. Whatever may be its effect on provinces containing large commercial centres, a predominently agricultural province such as the Punjab is undoubtedly the gainer under the new system. Taking the figures for 1921-22 for purposes of comparison, she gains on Land Revenue Rs. 119 lakhs, Stamps Rs. 41 lakhs, Excise Rs. 58 lakhs, Irrigation (Major Works) Rs. 243 lakhs: in all a gain of Rs. 461 lakhs. Against this must be set the loss of income-tax Rs. 23 lakhs and of doles (*para.* 72) Rs. 50 lakhs, together with extra expenditure on Irrigation Rs. 73 lakhs, interest on loans raised by Government of India previously for irrigation works Rs. 37 lakhs; other small items of expenditure Rs. 44 lakhs; contribution to Government of India Rs. 175 lakhs: in all Rs. 402 lakhs. Thus the net gain to the Punjab is Rs. 59 lakhs a year. To this another Rs. 24 lakhs would have been added had Excise revenue kept up to its previous level. It has, as we shall see, fallen heavily.

Financial difficulties of the Punjab. Rise in prices.

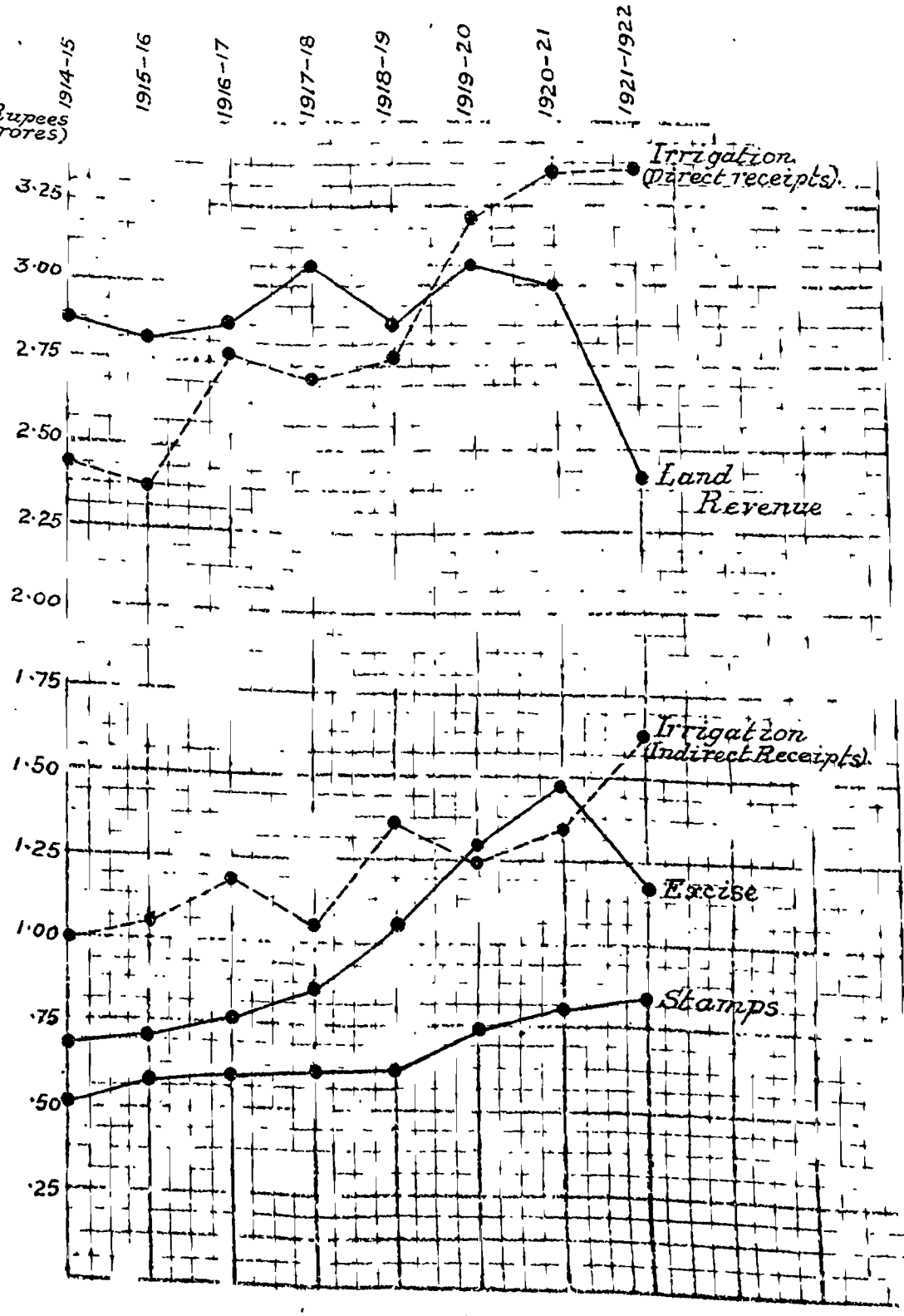
76. Other things being equal therefore the Punjab would have launched the new regime with a cash balance of Rs. 140 lakhs in hand, and a net annual further gain of Rs. 59 lakhs. Actually, however, as we have seen, it ended the first financial year after the introduction of the Reforms (1921-22) with a deficit of Rs. 90 lakhs. Briefly the reasons for this may be given as a heavy increase in expenditure due to the rise in prices combined with an inelastic revenue. This is shewn very clearly by the appended graphs.

Distinction between Capital and Current expenditure.

77. To analyse the matter a little more carefully it is necessary to glance at the figures. The two statements appended shew the important heads of Expenditure and Revenue. Actuals 1920-21 shew what would have been the revenue and expenditure in that year had the Reform Scheme been working. The graphs shew the receipts and expenditure

PUNJAB GOVERNMENT.

MAIN HEADS OF REVENUE.



Land Revenue, generally stationary, fell heavily in 1921-22.

Excise rose rapidly till 1920-21; then fell suddenly.

Irrigation receipts shew a steady rise.

under important heads during the last seven years. This is a better guide to expenditure than the accounts, as the expenditure on Civil Works has been split up into Communications, and the separate heads (*e.g.*, Education) for which buildings were constructed. The revised estimates for 1921-22, the first Reform year, may be taken as a fairly accurate approximation to the actuals for that year, while the Budget estimate for 1922-23 shews anticipations for the current year. The accounts are kept on the British system. There is however a fundamental financial difference between a fully developed country such as England, and an economically virgin province such as the Punjab. In England development may reasonably be confined to such as can be met from current revenues, but the Punjab, on the economic level of Brazil or Bolivia, with vast unexploited natural resources, requires some more rapid stimulus. Translated into financial language, this indicates a clear discrimination between capital expenditure for development and recurring expenditure.

REVENUE AND EXPENDITURE STATEMENT OF PUNJAB GOVERNMENT.

Expenditure (*Rs. lakhs*).

	Actuals, 1920-21.	Revised estimate, 1921-22.	Budget estimate, 1922-23.
Contribution to Government of India ..	1,75	1,93	1,75
Land Revenue	42	50	49
Forests	36	50	56
Irrigation	15	1,21	58
Police	96	1,05	1,15
General Administration	88	94	92
Education	70	87	1,05
Civil Works	1,22	1,57	1,29
Other heads	1,88	2,68	2,81
Total recurring expenditure ..	8,32	11,23	10,60
Capital expenditure (Irrigation, etc)	19	61	1,68
	..	11,87	12,28
Closing balance..	..	— 99	— 81
	..	10,88	11,47

Revenue (Rs. lakhs).

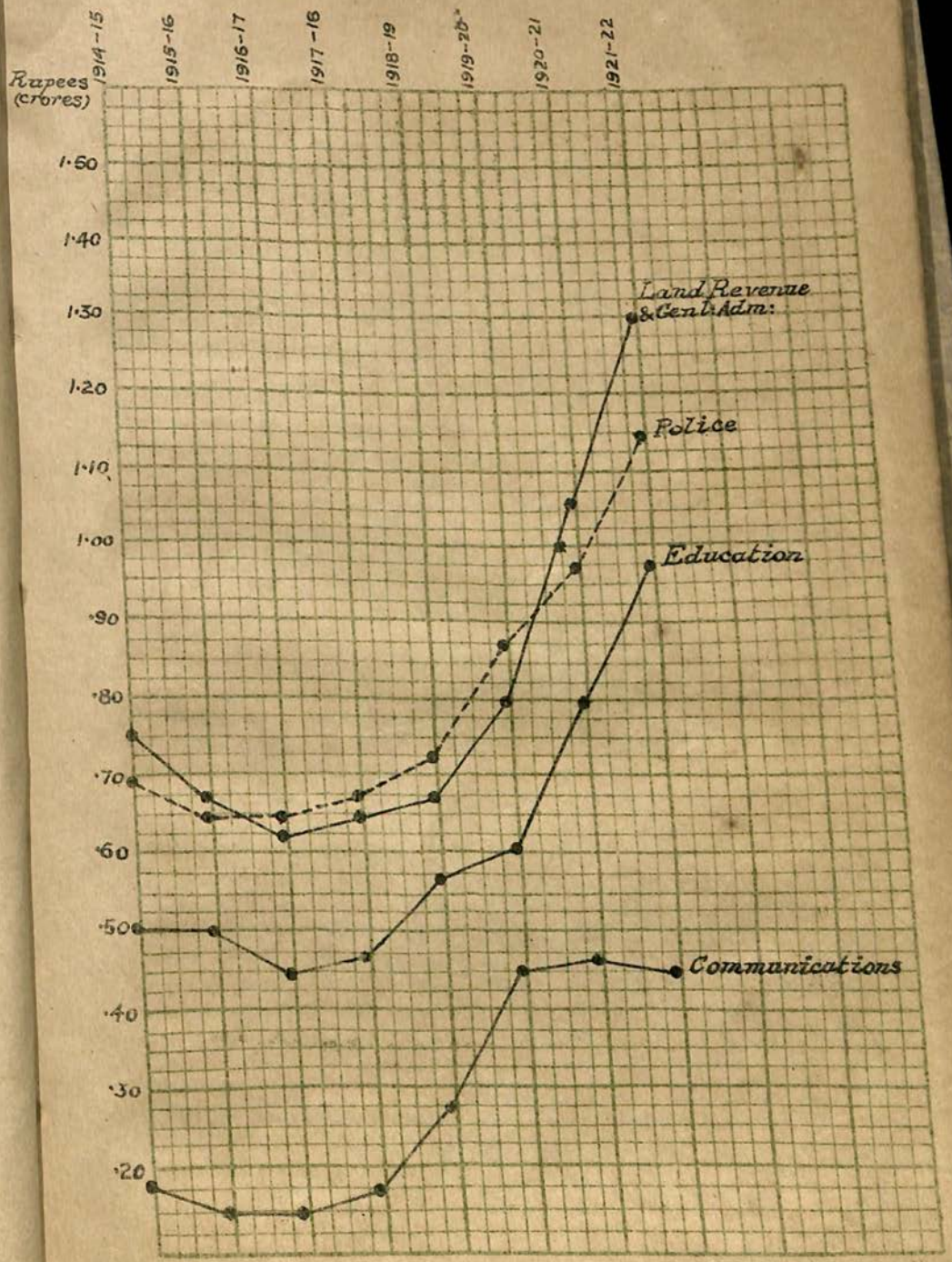
	Actuals, 1920-21.	Revised estimate, 1921-22.	Budget estimate, 1922-23.
Land Revenue	3,10	2,53	3,12
Excise	1,48	1,12	1,01
Stamps	80	82	83
Forests	38	51	54
Irrigation (working expenses deducted) ..	3,25	3,44	3,28
Other heads	68	92	95
Total recurring income	9,69	9,34	9,63
Debt incurred for capital expenditure ..	10	14	2,74
	9,79	9,48	12,37
Opening balance	..	1,40	—90
	..	10,88	11,47

Capital Expenditure. Productive.

78. Such a distinction has already been made in the case of Irrigation (*para.* 67). Under the old system the Government of India borrowed the money for new construction. The interest on these old loans together with such new works as are financed from revenues appear now as Irrigation expenditure. Deducting this from the net Irrigation receipts (working expenses deducted) we see that these Irrigation works brought in in 1920-22 a net profit to the Province of Rs. 223 lakhs. The estimates for 1922-23 are Rs. 270 lakhs, forming one of the most important sources of revenue to the province. This is absolute profit, after deducting the interest on the loans raised. Put into another form the Lower Chenab Canal is paying 45 per cent. on the Rs. 3¼ crores invested in it, the Lower Jhelum 19 per cent. on Rs. 1·7 crores, the Upper Bari Doab 16 per cent. on Rs. 2¼ crores and the Sirhind 11½ per cent. on Rs. 2½ crores. It would be difficult to find such a profitable investment elsewhere. This of course leaves out of count the other revenue that Government derives from the Canal Colonies, all ultimately due to the Irrigation

PUNJAB GOVERNMENT.

MAIN HEADS OF EXPENDITURE.



Civil Works expenditure (i.e., buildings, etc.) is included in that of the Department (e.g., Education) for which the works were executed, or under Communications.

Note the slight fall in expenditure during the war, with the subsequent rapid rise; also the small and stationary expenditure on Communications.

Department. And the direct receipts to Government are but a fraction of the total increase of wealth to the people of the Punjab. The Forest Department has been only prevented from shewing similar results by the necessity of meeting all capital expenditure from revenue. The results achieved under such conditions are amazing. The actuals for 1921-22 are better than the revised estimates. They shew a cash surplus of Rs. 6 lakhs, to which should be added Rs. 5½ lakhs on capital expenditure or a total of Rs. 11½ lakhs. When its accounts are put in a business like form the Forest Department shews a 35 per cent. return on its working expenditure (*para.* 51). With a similar capital grant the vast timber estates of the Punjab should realise a profit not less than its Canals. The whole question is now being carefully considered. Apart from Forest development the Punjab Government have under contemplation irrigation and hydro-electric projects. The total expenditure involved will be about Rs. 47 crores in the next 20 years, the average annual amount required from loans being about Rs. 3 crores per annum during the next 5 years. Considering the remunerative nature of the projects there should be no difficulty in financing these loans at a reasonable rate of interest.

Other Expenditure and Receipts of a capital nature.

79. The financial disorganization in 1921-22 was accentuated by the nature of the season. The Land Revenue receipts were only Rs. 250 lakhs as against an average of Rs. 290 lakhs during the last eight years. Such a loss is exceptional. To guard against it some form of insurance seems advisable on the line of famine insurance. On the other side of the account must be set receipts of a capital nature from the sale of Government estates, waste land, and town sites. These are mainly in the canal colonies. They amounted to Rs. 21 lakhs in 1921-22. Since 1914 the provincial revenues have benefitted by Rs. 182 lakhs from such sales. It is to be feared that receipts of this nature will shew a rapid reduction in the future till new areas become available for sale in the Sutlej Valley Colony. It would seem desirable that both receipts and expenditure of a capital nature should be entered in a capital account which should be kept quite separate from that for recurring receipts and expenditure.

Quasi-productive expenditure: Roads.

80. The development expenditure above referred to not only benefits the province, but is a source of direct income to the Provincial Government itself. There are, however, large heads of expenditure,

which though not directly productive, may be called quasi-productive. They do not make a profit, or even pay for themselves, but they directly contribute to the material progress of the country, and so indirectly to the revenues. Roads, for example, though not directly remunerative, are necessary to agriculture and commerce and thus increase the wealth and taxable capacity of the people. In England a quarter of the £ 40 millions spent annually on roads is raised by motor taxation. When it is realised that the Punjab only spends one-hundreth of this amount (Rs. 45 lakhs from the Provincial Government and an approximately equal amount from local bodies) the inadequacy of its communications will be appreciated. As a glance at the graph will shew, expenditure on roads remained stationary during the last 3 years, though the cost of repairs has gone up from Rs. 20 to 30 lakhs in two years. The saving has been effected in diminished expenditure on new construction of metalled roads which has fallen from Rs. 24 to 8 lakhs. As prices have doubled this means that new construction is reduced to a sixth of what it was previously.

The Development Departments. Difficulties arising from the present financial system.

81. Of a similar nature is the expenditure on the great Development Departments of Co-operation, Agriculture (including Veterinary work) and Industries. Their work may be classified again into (1) routine and (2) research and propaganda. There is a general feeling in these Departments that schemes of research expansion which they undertake may be cut down to satisfy the exigencies of finance. The Director of Agriculture asks for a Trust Fund for research (*i.e.*, a definite sum of money guaranteed for a term of years), which would enable the Department to see exactly what sum it had at its disposal and force it to weigh carefully the relative merits of various schemes. Economies would be practised because if money were saved on one object it would be available for others. Under the present system if a Head of Department economises, the money is apt to be taken away from him and handed to a less scrupulous Department. Finally the Finance Department would know where it stood, as the scientific Departments would be limited in their research expenditure to the amount of the Trust Fund. Opinion seems moving in this direction for all expenditure on research in the Development Departments. In Co-operation (it may be noted) propaganda occupies financially much the same position as research in the others (*para.* 44).

Administration proper. The Protective Departments.

82. The expenditure above described is either directly or indirectly remunerative. Even more vital are the Administrative Departments without which the State could not even exist. These are mainly included under the heads of Police, Land Revenue and General Administration. The rise in the cost of these essential services has been less than proportionate to the rise in the cost of living. When it is realised that the Police do not cost 8 annas per head of population, and the rest of the administration not much more, while the London Police cost twenty-five shillings per head of population, it will be realised how far is the Punjab from being overtaxed for these essential services.

Physical and Moral Welfare. Public Health and Education.

83. There remain Departments such as Public Health and Education, whose material value is more remote but which are recognised as necessary to the physical and moral welfare of a country. Ultimately, no doubt, Medical and Educational progress improve a country materially; but the effect is far more remote than that of the Productive and Development Departments. Retrenchment in these latter Departments would soon defeat its own ends by decreasing the taxable capacity of the country and therefore ultimately losing the money retrenched. Retrenchment in Education and Public Health is possible without material loss. Whether it is advisable belongs to the province of political expediency rather than that of finance. Something might however be done to make these departments more self-supporting by the charging of fees to those who can Afford it.

Additional Taxes.

84. The difficulties of retrenchment in expenditure are therefore clear; the only alternative left to the Punjab Government was the imposition of additional taxation. Stamp duties and court-fees have been enhanced (the latter a tax which will only hit the litigious who can well afford to pay); and it is also proposed to raise the canal water rates (*para.* 67). Here however the difficulty is experienced which is always found in the financial education of a newly fledged democrative assembly. The financial blunders of the French Revolutionary Assemblies are notorious; less well remembered but even more in point is the difficulty experienced by William III in getting supplies out of the first "free" English Parliament. It is only bitter experience of the evils of financial chaos which has induced representatives in such assemblies to agree to taxing their

constituents. The difficulty was discussed in the Report on the Montagu-Chelmsford Reforms. It had been argued that the maintenance of "divided heads" would enable the Provincial Government to fall back on the Government of India for support if its taxation proposals were opposed. But this argument was overruled as contrary to democratic principles. There seems however reason to doubt whether a predominantly agricultural Council like that of the Punjab will willingly impose an additional water rate on its constituents.

Excise Policy.

85. The revenue from Excise must be placed in a special category inasmuch as an increased Excise Revenue is not regarded as desirable unless it coincides with decreased consumption of alcohol. The general excise policy of the Government of India in relation to liquors is very clearly defined. They have no desire to interfere with the habits of those who use alcohol in moderation; this is regarded by them as outside the duty of the Government, and it is necessary in their opinion to make due provision for the needs of such persons. Their settled policy however is to minimise temptation to those who do not drink, and to discourage excess among those who do; and to the furtherance of this policy all considerations of revenue must be absolutely subordinated. Now however that Excise has become a purely provincial receipt the provinces are freer to put their own interpretation on this policy. The Committee of the Legislative Council of the United Provinces appointed to examine the excise problem in all its aspects recommended that 'the Government's excise policy should be to secure the minimum of consumption, but that the proportion of profits from that minimum of consumption which is to accrue to the State should be as large as possible.' This policy has also been adopted in the Punjab. In November 1921 the still-head duty on country liquors was raised from Rs. 7-8-0 to Rs. 10-10-0 a gallon and the number of licensed shops diminished. The number which was 666 in 1919-20 is now only 567.

Reduction in licit consumption.

86. Partly as a result of this policy and partly from other causes there has been 43 per cent. decrease in licit consumption from 7·3 to 4·1 lakhs gallons with a 21 per cent. diminution of gross income from Rs. 148 lakhs to 116 lakhs. Expenditure has also risen by a lakh mainly owing to a long overdue revision of the salaries of the establishment. Apart from the

increased duties economic depression has acted so as to reduce consumption. Bad seasons mean less surplus money to spend, and it is surplus money that generally goes in liquor. But the main cause has undoubtedly been political agitation. There has for many years been in India, as in Europe and America, a number of well-meaning and well-disposed persons with considerable influence who are convinced of the evil effects of drink and who have conducted a vigorous propaganda in favour of total prohibition. Those political agitators, who wish to overturn the present system of Government in India, allied themselves to this band of temperance reformers and conducted a very violent agitation throughout the province, the object of which was, as far as the political part of the movement was concerned, to cause as much loss as possible to Government. In furthering their object the agitators did not hesitate to use the weapons of picketting, boycott, intimidation, and personal violence. Would-be customers were frightened away from liquor shops, licensees were abused and sometimes assaulted, and every effort was made otherwise to prevent people from purchasing liquor from duly licensed shops. If this movement had confined itself to legitimate persuasion and if it had really succeeded in reducing the consumption of liquor there would have been little to object to in it. Unfortunately, however, intimidation was used, and this not so much to prevent a man from drinking as to prevent him from drinking licit liquor. As a result illicit distillation and liquor smuggling from Indian States were greatly stimulated. Bad habits of this kind are very difficult to eradicate, and it will be some time before the province recovers from the evil effects of this political agitation.

Remissions on auction fees.

87. The agitation rendered advisable some modification of the licensing system. Excise taxation was in two forms, a fixed still-head duty (raised from Rs. 7-8-0 to Rs. 10-10-0 per gallon as already stated) and auction fees from licenses. Auctions were held yearly for the licenses of country liquor shops, the idea being that in this way the maximum revenue would be obtained automatically. Competition however often induced speculative bids, and the feeling has grown that such licensees were constrained to push liquor sales unduly in order to recoup themselves for their expenditure. In the absence of proper supervision there was also a danger of such shops becoming agencies for the distribution of illicitly distilled or smuggled liquor. The tendency has been therefore to raise

the still-head duty so that the auction fees may automatically decrease. In 1921 moreover the raising of the still-head duty combined with political agitation diminished sales below what licensees had a right to expect. Government was directly responsible for the former; licensees who bid for retail licenses could not reasonably have been expected to anticipate the widespread nature of the latter cause. Moreover Government was not always able to give its full measure of protection from intimidation and violence to licensees and consumers. Accordingly in June 1921 remissions were granted to vend licensees of country spirit and Indian made foreign spirit. The calculation was based strictly on the decrease of sales for the quarter compared with the average sales of the same shop for the same quarter of the last three years.

The policy was an undoubted success. It is possible that part of the reduction in sales was due to economic causes entirely independent of the rise in prices or political agitation. It might be argued that at the time of the auctions, licensees should have anticipated these economic possibilities, and that therefore no remissions on this account should have been made to them. In practice, however, it was impossible to discriminate between these various causes, and it was therefore considered preferable to apply a uniform standard for remissions throughout the province.

Abolition of license auctions.

88. These difficulties suggested a further step in the same direction. In January 1922 country liquor and bazar foreign liquo aructions were a complete failure. In most districts intimidation was openly practised. Frequently no bids were received at all. The Deputy Commissioners were accordingly directed to call for tenders, but before these could be accepted it was decided to effect a radical alteration in the whole vend fee system. All negotiations were called off and tenders were invited for licenses under this new system. This substituted for the lump sum fixed fee for the whole year a fee payable on every gallon of 30° under proof which was drawn by the licensee from the distiller or wholesaler. The still-head duty was raised from Rs. 10-10-0 to Rs. 14-1-0 per gallon, and it was anticipated that the necessity for keeping down the retail price would lower the vend fee rates. Both the new vend fee system and the new duty took effect from 1st April 1922. Tenders were not an essential part of the new system, but political excitement, though on the wane, had not died down and it was decided not to risk auctions again. The sales

proved a success. It had been calculated that a fee of Rs. 8 per gallon in cities and Rs. 4 in the country were good rates which licensees could afford. But many tenders exceeded these rates, and therefore where necessary the shops were given to reliable licensees at reasonable rates. The new arrangements met with general approval. The Commissioner of Julllundur went further and suggested that the country spirit duty should be raised to the highest pitch, the sale price should be fixed and licenses should be given to respectable persons on nominal fees. This approximates to the system recently introduced in the United Provinces where it is said to be working satisfactorily. It is now being considered.

Smuggling from Indian States.

89. There is reason to believe that the minimum liquor consumption that can be achieved by raising the duty has now been reached and that a further rise would merely lead to increased illicit distillation and smuggling. In the Malwa districts, which are interlaced with Indian States, the problem of preventing smuggling from these States is insoluble. As long as the price of liquor and opium in the States is about a half to one-third of the price in British Territory, it will need an army of Excise officials to prevent people obtaining as much as they require from across the border. The only way in which this loss to the revenue can be prevented is by removing the cause. Some agreement is required between the Province and the Darbars of the various Indian States by which their excise policy and that of the Punjab will be brought into agreement and the prices of excisable articles will be approximately the same. Such an agreement is not however made any the more probable from the fact that the States are no longer under the Punjab Government (*para.* 11).

Opium smuggling

90. The decrease in licit consumption of opium has similarly led to smuggling. The steady decrease of past years is due to the curtailment of monthly supplies to vendors, diminution in the number of shops, and enhancements of duty. Bad times and the general high cost of living have also had their effect, and poorer consumers have been sometimes driven to the use of cheaper intoxicants such as poppy heads. The anti-liquor agitation had little or no effect on opium, the medicinal use of which for fever, diarrhœa and dysentery is generally recognised. Bu , as in the case of country liquor, the licit consumption figures are a false guide. Opium is now smuggled into, instead of out of the province, as hitherto. In 1916-17 the best

excise opium could be had from retail vendors at rates from Rs. 30 to Rs. 50 a seer. It was then worthwhile smuggling it to Burma and other places where much higher prices ruled. Now however the price ranges from Rs. 70 to Rs. 240 a seer. Taxation alone averaged Rs. 78-4-0 a seer for 1921-22. Malwa opium can be had in the Ferozepore District after illegal importation for about Rs. 20 to Rs. 30 a seer, while the average price of excise opium there is about Rs. 90. The restriction of supply of excise opium was formerly essential. Now it simply aggravates the situation. It is therefore now the policy to afford a sufficient supply in each district for the reasonable needs of the people.

Difficulties of the Excise Staff.

91. In connection with the difficulties of the excise staff in dealing with excise offences the question of the sufficiency of the rewards paid to informers must be considered. A reward of Rs. 10 or Rs. 20 may very rarely induce a man to inform against his personal enemy, who may be doing illicit distillation on a very small scale. It is not nearly sufficient to induce a man to inform against the illicit distiller, whose business has reached the degree of a commercial enterprise. Such men are prepared to pay heavy black-mail to possible informers, and in fact frequently take them into partnership. The only way in which effective information can be obtained is by a reward which will compete with a possible profit which the informer may derive from the illicit distiller. The experiment of subordinating the excise staff to the Superintendent of Police was tried in three districts. But the political upheaval coupled with the anti-liquor campaign prevented the system from receiving a fair trial. The apathy and even hostility of the public is the greatest hindrance to preventive work. It is no new thing that the sympathies of the country-side should be with the illicit distiller and the smuggler has in all countries frequently been the hero of romance. In some districts whole tracts of country are given over to illicit distillation with the connivance of lambardars and zaildars.

Misconceptions of Prohibitionists.

92. The Department has also to face the active hostility of a large body of persons, whose object is to abolish the use of liquor in the Province and indeed in the whole Indian Empire. The hostility of these persons, which is reflected to some extent in the Provincial Legislative Council, is due to a fallacy. They believe that the Excise Department is an instrument for increasing

the consumption of liquor and hence they argue that if the Department is abolished or reduced the consumption of liquor will be decreased. This position is untenable. The abolition or reduction of the Department could only cause a decrease in the consumption of licit liquor by facilitating the consumption of illicitly distilled and smuggled liquor. Production and consumption would no longer be under control, and once illicit distillation took root in new places it would take many years to eradicate. Under these conditions the prospect of total abstinence for the Province, the objective of the reformers, would be more remote than ever.

Income-Tax.

93. As has been already explained (*para.* 73) Income-Tax receipts are now credited to the Imperial Government. The machinery of collection has also been placed directly under the Government of India through an Income-Tax Commissioner for the Punjab, Delhi and the Frontier Province. Previously the work was in the hands of the Deputy Commissioners under the supervision of Commissioners. Assessments were made by the District staff, and in rural areas the zaildars were generally consulted. Later on special Income-Tax officers were appointed who relieved Deputy Commissioners of much of this work. Though it is too early to judge the results of the creation of a special Income-Tax Department at present, its independence of the political atmosphere of the province will probably enable the Department to tax more effectively and efficiently.

Archæology.

94. Archæology has also become a central subject. The list of monuments gazetted by Local Governments is therefore being scrutinised by the Archæological Department to ensure that no burden is put upon central revenues which is not absolutely necessary.

The Punjab Salt Mines.

95. The Collection of Salt Revenue has always been under the direct control of the Government of India. The Department of Salt Revenue in Northern India is administered by the Commissioner of Northern India Salt Revenue. He was formerly responsible to each of the Provincial Governments within whose jurisdiction the customs organization worked. Now, however, he is immediately under the Government of India with headquarters at Agra. In the Punjab rock salt is obtained from the great Mayo mine in the Salt Range at Khewra in the Jhelum District and from smaller mines in the

same range at Kalabagh and Warcha. The small mine at Nurpur has been closed recently. The Khewra mine was worked by jail labour under the supervision of a small amount (about 5 per cent.) of free labour. There has always been a difficulty with the free labour. The labourers struck at the beginning of 1921, but though the strike ended in May, the labourers were called away by the excellence of the *kharif* harvest. The mine is now run entirely by jail labour working under officials of the Salt Department. Though prisoners are negligent, and tend to issue stone with salt, they nevertheless not only pay their way but are a source of profit to the Jail Department. These Salt Range Mines supply the greater part of the Punjab. The south-east of the Province however is served from Rajputana (including the small source of Sultanpur in the Gurgaon District of the Punjab on the Rajputana border). This salt is obtained by solar evaporation of surface and sub-soil (canal, pit, or well) brine. Finally there are two mines in Mandi State in the Himalayas. They are owned and worked by the State. The salt is impure and won with difficulty. Formerly an establishment was kept to watch the sales and issues on which was based the Government share of the special duty of $3\frac{3}{4}$ annas per maund levied. Now, however, by an arrangement which is very satisfactory to both parties concerned, the Mandi Darbar takes over entire control for 5 years and pays a composition of Rs. 20,000.

The Salt Duty.

96. The output from the Salt Range Mines is about $4\frac{1}{2}$ million maunds (rather more than a tenth of the total Indian output). The duty being Re. 1-4-0 per maund. the gross revenue is about Rs. 56 lakhs. The cost of administration being Rs. 6 lakhs, the net revenue is half a crore of rupees. The Government proposal to double the duty was rejected by the Imperial Assembly. The average annual consumption of salt per head is 5 seers (this allows also for the consumption of cattle). The cost to each individual from doubling the tax would therefore be only 3 annas a year. The Salt Revenue would be doubled, as the cost of administration would remain the same. The action of the Legislative Assembly involved a loss to the revenues of the Government of India of about Rs. 5 crores (the net receipts from the whole of India after deducting working expenses) which would have been raised at a minimum of annoyance to the people.

97. The duty on salt being Re. 1-4-0 per maund, and the cost of extraction 4 annas, the price should not exceed Rs. 2 per maund anywhere near a railway. At a distance from a railway cost of carriage begins to tell, till in a nearly roadless district like Kangra the cost may be doubled or trebled. Actually however the price has greatly exceeded this limit. The Punjab produces enough salt for its own consumption. But during the war it had to supply Bengal also, which had previously relied on supplies by sea. Even after the war, the scarcity inevitably arising from the lack both of internal and of overseas transport, combined with the continued cessation of supplies from German and Turkish sources, encouraged speculators to exploit the situation. Towards the end of 1920 it was decided that the only possible remedy was to appoint, in every district in Northern India, as well as in certain Indian States, agents to whom an allotment of salt from Northern India sources could be made monthly on the basis of population. The internal distribution of salt within each district was controlled by the District Officer, the only requirement made by the Northern India Salt Revenue Department being the limitation of commission realised by the agent. In practice, however, these limitations were difficult to enforce and they tended to remain a dead letter. The system, however, worked with fair success as long as the shortage of salt remained acute, but when increased supplies of salt in the cold weather of 1921-22 facilitated competition, the nominees proved in many cases unable to compete with traders to whom the Commissioner of Salt granted passes, a procedure which was consistent with the intentions of the Agency System. It is possible therefore that the agency system will be abandoned, and free trade restored.

The Agency system of distribution.

98. To obviate these difficulties and to prevent the possibility of similar scarcity in the future, increased machinery was sanctioned for Khewra by the Imperial Assembly. This will enable the mines there to turn out salt sufficient if necessary to supply Bihar and Bengal also in case their overseas supplies fail. Rail transport is however costly as compared with sea transport, and it is difficult for a bulky article like salt to travel to Bengal from the Punjab at rates which can compete effectively with shipping freight charges. On the other hand rock salt has a special value to Hindus

Schemes for Development.

on account of its ceremonial purity and for this purpose it is exported as far even as Madras and Ceylon. In the process of excavation about a quarter of the salt however becomes dust. Though in quality it is as good as rock salt, it is liable to be mixed with dirt and is therefore looked on with suspicion especially by the ceremonially pure. Even at two pice a maund (rebate on the duty being allowed for industrial purposes) there are no buyers of salt dust. Methods similar to those which have pushed the sale of 'Cerebos' salt, are therefore under contemplation to place it on the market in a more attractive form, and with a guarantee of purity.

CHAPTER VII.

VITAL STATISTICS AND MEDICAL SERVICE.

The birth-rate and economic conditions.

99. The census figures seem to indicate that economic conditions rather than salubrity govern the growth of population. In the Gurgaon District, for example, the decrease in population for the period 1901-21 is equivalent to 19·4 per cent. During the decade 1891—1901 the district showed an increase of population, but in all other census periods a serious decrease. Though the district is unhealthy, the fundamental cause of this progressive decrease in population is loss of economic stimulus. The soil is poor, the water saline and agricultural methods unprogressive. Consequently prosperity in this district must be dependent on some extrinsic stimulus. In the palmy days of old Delhi Gurgaon was prosperous, but its prosperity was artificial depending entirely on conditions prevailing in Delhi. The stimulus declined *pari passu* with the importance of old Delhi, and so up to 1891 the population was a decreasing one. From 1891 to 1901 there was a wave of prosperity, due to the construction of Bunds (irrigation embankments). But the 'Bunds' quickly ceased to function, and from 1901 onwards there has been a steady decrease of population due to mortality and emigration. Emigration has been also greatly assisted by the decline of the salt industry. Thus economic causes rather than its admitted unhealthiness seem to account for the decrease in Gurgaon. The irrigated district of Lyallpur with its large increase points the same moral. The association between irrigation and malaria has been emphasised *ad nauseam*, but the census figures show that a population can easily maintain itself against malaria if the economic stimulus be sufficiently powerful.

Epidemics.

100. The vital condition of the Punjab is indicated from the following table:—

	Birth-rate.	*Death-rate.*
	(Per 1,000 of population.)	
Punjab (1919)	41	30
British India (1919) ...	30	36
England and Wales ...	19	14

The Punjab still figures as the province with the highest birth-rate, while coming low on the inter-provincial list for deaths. It would seem as if Nature were endeavouring to replace the losses suffered through plague and influenza and to provide a population for the rapidly expanding Canal Colonies. Both the birth and death rates are double those of England and Wales. In a hot country life is shorter though its reproductive powers are greater than in a more temperate climate. Cholera was again epidemic in the province during 1921 with a total mortality of 19 thousand, the highest on record since 1900. Infection in the first instance was traced to Hardwar in practically all cases.

Medical Relief.

101. With the opening of 45 new dispensaries, the largest measure of advance on record, the year 1921 closed with nearly 600 hospitals and dispensaries working and from these over 5 million patients received treatment during the year. There are, however, signs that this rate of expansion will be difficult to maintain. The total expenditure on those hospitals and dispensaries to which Government contributes has risen from Rs. 16 to 32 lakhs in the last four years. During this period the amount contributed by local bodies has increased from about Rs. 12 to 22 lakhs but there are indications that the limit which local bodies are prepared to spend on medical relief has now been reached. Government have under consideration a five years' programme of expansion; but it is clear that unless local bodies can see their way to increasing their expenditure still further, the additional burden, both initial and recurring, will fall upon provincial revenues at a time of acute financial stringency. If funds are forthcoming progress is generally assured.

Sanitation.

102. The task of framing rules and regulations for village sanitation has exercised the legislative ingenuity of some District Boards. But on the whole it may be said that these rules have failed in their object. Rules and regulations are framed in the first instance by people who would not dream of observing them themselves and the only purpose they serve is to bring Public Health measures into disrepute. The villagers do not want rules and regulations, and in this respect do not differ from any other rural population. The Sanitary Board has urged District Boards to concentrate on a District Health Agency and a standard of one dispensary per 10 square miles. Some District Boards have been

spurred to feeble efforts in this direction, but generally speaking they do not display any noteworthy energy in dealing with the problem of rural health when expenditure is involved. The rural water supplies in large areas of the province are in a deplorable state. The broad question of reducing the mortality from malaria by comprehensive drainage schemes is occupying the attention of the Drainage Board. One drainage system is being constructed and the projects for others have been prepared. The drainage channels, when constructed, will eventually be maintained by the Irrigation Department. It is however in urban sanitation that most progress is to be recorded. Difficulties of water supply are being extensively overcome by means of tube wells. The storm water outfall, which is being constructed by the Amritsar Municipality, should improve the salubrity of that not too healthy city. The channel had been in a most neglected condition for several years and has now been redug and regraded from its tail and for a distance of some 14 miles. The portion around the city awaits completion, but it is hoped that the work will be finished before the end of 1923. It is expected that this channel will carry off the rain water which at present stagnates around the city after the rains and thus keep the neighbourhood dry and free from malaria.

Vaccination.

103. Financial stringency has affected the vaccination staff. It has been decided to abolish the posts of Divisional Inspectors and no new recruits are being enlisted. The number of vaccinators employed by local bodies increased, and a minimum of two vaccinators per tahsil is being arrived at. Vaccination is gradually becoming more popular among the rural population, and in some places the house-to-house system was resorted to. In four villages this system was successfully attempted during an epidemic of small-pox. In a few districts it was resented by the people, but this attitude on their part would seem to be due not so much to the system itself as to the manner in which the staff proceeded to carry it out. In one district the vaccinator instead of going from house to house expected the people to come to him with their children to a central place. Such action defeats the object of the system.

CHAPTER VIII.

EDUCATION.

Education before the Reforms.

104. The tendency to re-examine the basic postulates underlying the whole structure of education which has recently manifested itself in England has had its reflex in India. Self-questioning has been also stimulated by the Reforms. Much had however been accomplished before the New Order began. Indian education generally has been charged with being topheavy. The total educational funds, being small, have been concentrated upon meeting the demands of those who perceive the benefits of education rather than upon cultivating a desire for education where it does not at present exist. Since it has been framed primarily with a view to meeting the demands of the *intelligentsia* it is of a predominantly literary type. But by the formulation in 1918 of a five years programme for the advancement of vernacular education in rural areas, the Punjab struck a new line. For the first time an attempt was made on a scientific basis to remove illiteracy and to equate the balance between rich and poor, between progressive and backward tracts. Another vital factor in any educational system is the well-being and competence of the teachers. There had been little incentive for men of the right sort to enter the teaching profession. Teachers were seriously handicapped by small remuneration and less repute, with the result that with honorable exceptions, the profession was unpopular among men of high capacity. Shortly before the inception of the Reforms, however, the salaries of the educational services were revised. Careful provision was also made for the training of teachers, with the happy result that rapid expansion of education need not now be retarded by a lack of trained teachers. It is a matter for congratulation that, during the political strain of 1921-22, the teachers shewed a professional pride in their calling which saved the educational system of the province from the disastrous consequences which have taken place elsewhere. Provision was also made for training in agriculture, for manual and clerical training, and for drawing and greater attention was paid to the claims of science. The appointment of Medical Inspectors and the revision of the course in physical training also indicate that the health and well-being of the pupils were not neglected.

Education under the Reforms.

105. The Reforms Scheme came into effect at the beginning of 1921. Diarchical principles have inevitably resulted in some division of control. While Education generally is a transferred subject, and under the control of the Minister for Education, responsible to the Legislative Council, European education is reserved and controlled by the Finance Member. The teaching of Agriculture in Middle Schools is regulated by the Education Department, but the Agricultural College, Lyallpur, is controlled by the Minister for Agriculture. Overlapping of this kind is however incidental to any system of Government. Much secretarial work is saved by the fact that the Director of Public Instruction, in his capacity of Under-Secretary, deals directly with the Minister, except in such cases as are submitted to him through the Finance Department. By this means a considerable saving has been effected, which is also calculated to bring about that intimate and harmonious contact between the Minister and the Head of the Department, which is essential to the proper working of the Reforms.

Education and non-cooperation.

106. With the Reforms came the non-cooperation movement and the attempted boycott of state-aided Education. But the direct results in the Punjab were slight. For a time towards the end of 1920, and in the early months of 1921, the situation seemed serious. A few institutions cut all connexion with the Government and University systems. Some of the abler and better students left college. But the tide soon ebbed. The number of teachers who threw up their posts was negligible. Colleges and schools quickly re-opened with little diminution of their numbers. But though discipline and work undoubtedly suffered, much good resulted. The loyalty of teachers was stimulated by a professional pride in their calling and a noble desire to serve the best interests of the boys and girls of the province. The influence of parental authority was realised. Heads of schools and colleges made a practice of appealing to parents when disaster threatened, and the appeal was rarely made in vain. It was then realised how parents in backward districts shrink from sending their sons far away from home and parental influence to the unhealthy congestion of Lahore. The demand for "a national system of education" was not purely factitious. Much of the education was ill-suited to the practical needs of the students. In economics, for example, they desired to study the application of general

principles to the problems of their own country instead of to those of distant lands. While therefore the constructive programme of the non-cooperators has come to naught, their criticisms have provided a useful guide to weak points in the Educational system.

Collegiate Education.

107. In University Education however no criticism was necessary to stimulate reform. Just prior to the inauguration of the Reforms, an invaluable lead had been given to the Education Departments in all provinces by the recommendations of the Calcutta University Commission. The Punjab has made start in this direction by the institution of Honours Schools which provide better and more varied teaching for the abler students. Another reform advocated was the removal from the University of all tuition of a strictly pre-University standard, and its concentration into new institutions to be known as Intermediate Colleges, which should provide the logical culmination of the system of secondary education. It has been felt for some time past that there is an excessive concentration of young students in Lahore, and that this is good neither for the place nor for the students (*para.* 106). Two Intermediate Colleges have accordingly been opened by Government in Multan and Ludhiana, and two more were raised by private enterprise at Jullundur and Ambala. These with the Guru Nanak Khalsa College at Gujranwala, opened in 1917, made up a total of five Intermediate Colleges already in existence. On the whole, these colleges have made a good start and are proving their value; but it seems unlikely that a two-year colleges will be entirely successful. Such a period is far too short for the traditions and influence of the institutions to be impressed upon the students. In such a college also it is difficult to combine efficiency and economy. The proposals of the Calcutta University to include the two High classes as well as the two Intermediate classes is the probable solution of the difficulty. The creation of four-year colleges at Lyallpur, Gujrat and Campbellpur is now under consideration.

The developments of the future are thus linked up with the questions of control and of organisation. Without a suitable control and without a suitable organisation, University teaching cannot be expected to flourish. At present, the University exercises an excessive control over the courses and curricula but an inadequate control over the teaching given in its name. The former is irritating to the teachers

and an impediment to salutary changes and to the formulation of well-devised courses ; and the latter can only result as it does, in wasteful duplication and yet in monotonous teaching, the students being confined to individual colleges. Without a suitable organisation to guide it, cooperation between the University and the Colleges and between the Colleges themselves is well nigh impossible. The Universities Act of 1902 tried to enforce official control ; and subsequent proposals developed this tendency. Official control is not only vexatious but also ineffective. The obvious solution is for Government to relax its detailed control, and for the University while relaxing its control over the courses to tighten its control over the teaching.

Secondary Education.

108. Secondary education continues to advance. Boys' High schools have increased in number from 143 in 1917-18 to 187 in 1920-21 to 203 in 1921-22. The increase in the number of Middle schools is still more remarkable, rising from 291 in 1917-18 and 789 in 1920-21 to 850 in 1921-22 ; the number of scholars for these periods being 57 ; 118 ; and 133 thousand, respectively. But the advance in number and strength is only one feature in the striking development of this grade of education in the Punjab. The pay and prospects of teachers have been improved. Sounder methods of inspection have been inculcated. The Inspector's visit to a school should afford an opportunity for the exchange of ideas between himself and the headmaster. But in the methods of inspection there are evil traditions. Perhaps the hardest to kill is that which demands the examination of every class at the annual inspection. Instructions have been given that inspection is not examination but a means of improving school methods and organisation ; yet the evil still persisted. This important matter was discussed at the Inspectors' Conference of 1921. Instructions were embodied in the Review of the Conference, giving to Inspectors much greater latitude of action, instituting inspecting committees under the guidance of each Divisional Inspector, and inaugurating a system of conferences by divisions, at which matters of general and local importance could be discussed. By these means sounder methods of inspection, a wider outlook on school life and work, a greater degree of individuality in practice and more elasticity in the whole system should be encouraged. Difficult problems however still await solution. Schools are unequally distributed. The headquarters of a district may have

several High schools, while other parts of the district may be left entirely without provision. Such a multiplication of schools is generally due to communal rivalry. The examination system has been overdone, and the methods of teaching leave much to be desired. These deficiencies are however fully recognised by the Department, and adequate steps are being taken for their removal.

The Boy-Scout Movement.

109. A notable addition has also been made to existing agencies for the moral training of the pupils by the inauguration of the Boy-scout movement. A camp was held in December 1921 for the instruction and training of scoutmasters. General enthusiasm prevailed and the scoutmasters are now engaged in training troops in the schools from which they were sent. It is calculated that there are now about 6,000 boy-scouts in the province. A large and successful rally took place on the occasion of the recent visit of His Royal Highness the Prince of Wales to Lahore and the success of that rally augurs well for the future development of the movement in the province. It is realised that if the system is to maintain a high standard of efficiency, every care must be taken in the selection of scoutmaster and leaders in the recruitment of scouts.

Agricultural Training.

110. Public opinion is beginning to recognise that some training in agriculture is an essential concomitant of education in rural areas. In its method of agricultural training the Punjab takes the lead. The number of vernacular middle schools which provide a practical training in agriculture has reached nearly fifty and the reports on the efficiency and value of the teaching have been satisfactory. This experiment has aroused considerable interest in other parts of India. Other provinces have started a small number of separate agricultural schools but the general impression of the conference was that this type of school was most certainly very expensive and that as yet results have been disappointing. The Punjab system is very different. It is based on the principle that an intensive training in agriculture is unsuited to young boys, and that what is really needed is a good general training enriched, in suitable places, by some practical training in agriculture. This practical training is given on small school farms by a Senior Vernacular teacher who has undergone a year's course in agriculture at Lyallpur. The economy of the Punjab system at any rate is self-evident. Suitable

training in agriculture is now given to some 5,000 boys. Intensive training in separate Agricultural Middle schools of the type given in other provinces could only be provided for 500 boys at the same cost.

Vernacular Education.

111. Vernacular education owes much to the formulation of the five-year programme (*para.* 23). The programme constitutes an important landmark in the educational history of the province. Success has attended the first systematic effort to break down illiteracy. Apart from the striking numerical results, the programme has secured some measure of equality of treatment; for it is not the richest board that is allotted the largest amount of Government grants, but the one whose need is the greatest. The gratifying results of this policy are noticeable in the educational progress made by many backward districts. Some drawbacks have however accompanied this progress. The financial difficulties in which district boards have been involved have already been mentioned (*para.* 21). Serious misunderstandings have arisen between district boards and Government on the manner and amount of the grants. This question has been under consideration for some time, and revised orders will be published shortly.

Compulsory Education.

112. Lahore and Multan alone have availed themselves of the opportunities afforded by the Compulsory Education Act. The difficulty of introducing it is not always adequately realised. Some speak as though the successful introduction of compulsion is merely a question of money. As a matter of fact, that is just what it is not. The compulsory system is not only more efficient but also more economical than the present voluntary system. A school of (say) 160 pupils with a teacher for each class is obviously more efficient as well as more economical than school of (say) 30 pupils with a single teacher taking all four classes. The difficulties in the introduction of compulsion on a wide scale are other than the provision of funds. In the first place, there is the poverty of the people. It is easy to state that education would improve their material well-being and would assist them in avoiding the clutches of the money-lender, but it is far more difficult to convince people who are daily faced by the problems of poverty and who need the labour of their sons, of the truth of these remarks. It is easy to state that a school should be open to all and that the sons of the depressed classes should receive admission, but it is far more

difficult to ensure that the excellent principle is carried into practice. Another difficulty is one which has received insufficient attention, the inadequate supply of teachers. In all western countries three-fourths of the teachers in primary schools are women. Without the women compulsion would no longer be possible, not only because the supply of teachers would be inadequate, but also because the expense would be prohibitive. In India, social conditions being what they are, not only is the assistance of women debarred from the primary schools for boys, but men teachers are sometimes engaged in girls' schools. Separate schools are also required for boys and for girls. There is yet another difficulty. The Indian University and secondary school systems suck from the countryside its best intellect, but the social conditions of the country discourage such intellect from returning to the villages and thus from influencing the villagers in the direction of education. The religious organisations of the Indian communities do not offer to the graduate the same opportunities of work and influence as fall to a clergyman in England or to a minister in Scotland. There is not, again, the same scope for an Indian medical graduate in the villages as is afforded to a medical practitioner in the English countryside. The Indian landowner does not ordinarily proceed to a University. What primary education in England would have done without the influence of the parson, squire and doctor it is difficult to imagine; yet in India these influences are rarely available to rural education. Again, in England, the primary school enjoys the honorary services of an army of philanthropic ladies who visit the parents, care for the needs of the children and carry out a hundred and one little duties, the performance of which enables the school to be appreciated as something of real value to the people.

Statistical and financial.

113. The total number of scholars has risen from 557 thousand in 1920-21 to 627 thousand in 1921-22. These were made up as follows :—

	Public Institutions.	*Thousands.*
Males.	Arts and Professional Colleges ...	6
	High Schools	76
	Middle Schools	132
	Primary Schools	271
	Special Schools	5
		490

		Thousands.
	Public Institutions.	
Females.	Arts and Professional Colleges	...
	High Schools	3
	Middle Schools	11
	Primary Schools	48
	Special Schools	1
		63
	Private Institutions.	
Males	... ...	50
Females	... ...	24
		74
	GRAND TOTAL ...	627

The financial problems due to the increase in educational expenditure have already been dealt with (*paras.* 23, 83). Much has already done by economising staff, reduction of building expenses, and efficient organising to reduce unnecessary expenditure, and further ways of economising are being investigated.

APPENDIX I.

Sources.

General.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

India in 1921-22 by L. F. Rushbrook Williams.

Statistics of British India, Volumes I, II, III, IV.

Agricultural Statistics of India, Volume I.

CHAPTER I.—Protection.

PROVINCIAL REPORTS.

Report on the Police Administration of the Punjab for the year 1921.

Report on the working of the Criminal Tribes Act for the year 1921.

Report of the Chemical Examiner to Government, Punjab, for the year 1921.

Report on the Administration of Criminal Justice in the Punjab and its Dependencies during the year 1921.

Report on the Administration of the Jails in the Punjab for the year 1921.

Report on the Administration of the Registration Department of the Punjab for the year 1921.

Report on the Administration of Legal Affairs of the Government of the Punjab for the year 1921.

Civil Statements of the High Court of Judicature at Lahore and of the Courts in the Punjab subordinate thereto for the year 1921.

Annual Report on the States under the Political charge of the Punjab Government for the year 1921-22.

CHAPTER II.—Administration of the Land.

PROVINCIAL REPORTS.

Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1921.

Annual report on the Punjab Colonies for the year ending 30th September 1921.

Report on the Administration of Estates under the Court of Wards in the Punjab for the year ending 30th September 1921.

Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1921.

Report on the Operationr of the Department of Land Records in the year ending 30th September 1921.

CHAPTER III.—Local Self-Government.

PROVINCIAL REPORTS.

Report on the Administration and Accounts of the District Boards in the Punjab for the year 1921-22.

Report on the working of Municipalities in the Punjab during the year 1921-22.

CHAPTER V.—Production and Distribution.

PROVINCIAL REPORTS.

Report on the Operations of the Department of Agriculture, Punjab, for the year ending 30th June 1922.

Annual Report of the Punjab Veterinary College, Civil Veterinary Department, Punjab, and Government Cattle Farm, Hissar, for the year 1921-22.

Report on the Land Revenue Administration of the Punjab for the Agricultural year ending 30th September 1921.

Report on the working of Co-operative Societies for the year ending 31st July 1922.

Report on the Department of Fisheries, Punjab, for the year ending 31st May 1922.

Report on the Weather of the Punjab for the year 1921-22.

Punjab Season and Crops Report for 1921-22.

Report on the Lawrence Gardens, Lahore, for the year 1921-22.

Progress Report on Forest Administration in the Punjab for 1921-22.

Report on the Administration and Accounts of the District Boards in the Punjab for the year 1921-22.

Report on the working of the Factories Act in the Punjab during the year 1921.

Report on the External Land Trade of the Punjab for the year 1921-22.

Report on the Joint Stock Companies in the Punjab for the year 1921-22.

Annual Report of the Camel Specialist for 1921-22.

Report on the Department of Industries, Punjab, for the year ending 31st March 1922.

Note by the Chief Auditor on the Capital and Revenue Accounts of the North-Western Railway for the year ended 31st March 1922.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Estimate of Area and Yield of certain principal crops in India.

Report of the Chief Inspector of Mines in India.

Inland Trade (Rail and River borne) of India.

Triennial Review of Irrigation in India, 1918—21.

CHAPTER VI.—Revenue and Finance.

PROVINCIAL REPORTS.

Report on the Excise Administration of the Punjab for the year 1921-22.

Report on the Administration of the Stamp Department of the Punjab for the year ending 31st March 1922.

Progress Report of Forest Administration in the Punjab for 1921-22.

Report on the Administration and Accounts of the Districts Boards nthe Punjab for 1920-21.

Report on the working of Municipalities in the Punjab during the year 1920-21.

Punjab Government Budget for the year 1922-23.

Detailed Budget Estimates for the year 1922-23.

Punjab Excise Manual, Volume I.

Punjab Legislative Council Manual, Volume VI.

CHAPTER VII.—Vital Statistics and Medical Service.

PROVINCIAL REPORTS.

Report on the Sanitary Administration of the Punjab and Proceedings of Sanitary Board for the year 1921.

Report on the working of the Punjab Lunatic Asylum for the year 1921.

Notes on Vaccination in the Punjab for the year 1921-22.

Note on the Annual Statements of the Dispensaries and Charitable Institutions of the Punjab for the year 1921.

CHAPTER VIII.—Education.

PROVINCIAL REPORTS.

Report on the Progress of Education in the Punjab during the Quinquennium ending 1921-22.

Report on the operations of the Department of Agriculture, Punjab, for the year ending 30th June 1922.

Annual Report on the Punjab Veterinary College and the Civil Veterinary Department, Punjab, for the year 1921-22.

Report on the working of the Lahore Museum for the year 1921-22.

NOTE.

The following Reports (which had not appeared at the time of publication of this Report) may also be consulted :—

PROVINCIAL REPORTS.

Report on the Internal Trade of the Punjab by Rail and River for the year 1921-22.

Administration Report of the Public Works Department, Punjab, Buildings and Roads Branch, for the year 1921-22.

Administration Report of the Public Works Department, Punjab, Irrigation Branch, for the year 1921-22.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Report on the Administration of the Northern India Salt Revenue Department for the year 1921-22.

APPENDIX II.

PREVIOUSLY Administration Reports were classified in sections under prescribed heads. These sections have been omitted from the body of the Report, but they are given here with corresponding paragraphs of the Report. As will be seen, the subject of many of the sections will be dealt with in Volume I—

Official Sections.		*Paragraphs of Report.*
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57.	Art and Sciences	Volume I.
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Otto Harrassowitz, Leipzig.

Friedlander & Sohan, Berlin.

In India.

The Manager, Imperial Book Depôt, Delhi.

Gulab Singh & Sons, Mufid-i-'Am Press, Lahore.

Manager, Punjab Law Book Depôt, Anarkali Bazar, Lahore.

Rama Krishna & Sons, Book-sellers and News Agents, Anarkali Street, Lahore.

Honorary Secretary, Punjab Religious Book Society, Anarkali, Lahore.

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G. A. Natesan & Co., Madras.

Superintendent, American Baptist Mission Press, Rangoon.

The Manager, "Hitavada," Nagpur, Central Provinces.

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PREFACE.

THE Administration Report normally deals with the year's working only, but every ten years the Report covers a much larger ground, historical and descriptive matter being included which will only need revision every ten years. Such a revision was made last year, and it is to the "Land of the Five Rivers" * that reference should be made for all historical and descriptive matter, which is not specially concerned with this year's working. The traditional 'year under report' varies. The Administration Report is based on the reports of the various departments. These reports deal with varying periods, extending from Land Revenue, which deals with the year ending on the 30th September, 1922, to Co-operation which deals with the year ending on the 31st July, 1923, practically a year later. The exact period for each subject can be found by referring to Appendix I, where a list is given of the various Reports on which this Report is based. Generally, however, it may be said that Chapters I and V relate to the Calendar year 1922, Chapter III to the agricultural year ending September 30th, 1922, and the remaining Chapters mainly to the financial year ending March 31st, 1923. A brief general subject index is appended. An abstract of the most important subjects dealt with is given in the General Summary.

* Constituting Volume I of the Punjab Administration Report for 1921-22 and containing the decennial portion of the Report.

Punjab Administration Report 1922-23.

GENERAL SUMMARY.

Protection.

1. Crime which had decreased during the War was increasing from 1919 onwards, but showed a tendency to decline towards the end of the year under report, which has been maintained since. The prevalence of crime was partly due to demobilisation, but the causes were also partly economic and partly political, and with the improvement in the economic and the political situation security also has of late improved. Ever since the conclusion of peace, however, crime has never reached the high figures prevailing in the year immediately preceding the War. While, however, crime, generally speaking, has after increasing since the peace begun again to decrease, the more serious forms of crime have maintained their tendency to increase. Jails were overcrowded, and financial considerations rendered it difficult to find the necessary accommodation. Steps are being taken by the High Court to deal with the question of delays in Civil Courts.

The Legislative Council.

2. In the allocation of funds the distinction between reserved and transferred subjects has been treated as one between the beneficent departments of Government, which are under the control of the Governor acting with his Ministers, and those which are either revenue-producing or deal with the administrative machinery of Government, which are under the Governor in Council. The Standing Committees of the Legislative Council form a valuable channel for the interchange of ideas between the Executive and the Legislature. While maintaining a strict scrutiny into all budget proposals for expenditure and a reluctance

to impose new taxation the Legislative Council has not been niggardly when occasion arose. The most important of the financial liabilities so assumed by the Council amounted to Rs. 42½ lakhs in connection with the riots at Amritsar in 1919. On the whole the Council represented the moderate current of political opinion, and was by no means an extremist body. The Muhammadans constituted the largest party in the Council mainly representing rural interests and therefore sometimes allying themselves with the rural members of other communities.

Land Administration.

3. The season of 1921-22 was on the whole favourable except in the east of the Province. This fact combined with high prices made the recovery of large arrears of land revenue a comparatively easy matter. The total amount of fixed and fluctuating land revenue to be collected was Rs. 417 lakhs, of which 407 lakhs was actually recovered. In recent assessments out of deference to the Legislative Council the land revenue assessed has in no case exceeded one-third of the net assets of each assessment circle. Steps are being taken to amalgamate the staffs of Revenue and Canal patwaris in the British Territory irrigated by the Western Jumna Canal. From the results of this amalgamation it will be possible to decide whether its extension to other canals is feasible. In view of the increased responsibility of patwaris attempts are being made to raise their educational standard. The condition of the agricultural population was generally good, and economically the condition of agricultural labourers is improving owing to the high wages offered in the Colony areas.

Local Self-Government.

4. Even before the introduction of the Reforms Scheme the Punjab Government had taken steps towards a substantial reform in Local Self-Government. With the introduction of the Reforms, the department of Local Self-Government became a transferred department under the control of the

Minister for Education. Acts were passed increasing the powers and independence of District Boards and Municipal Committees. By the Village Panchayat Act of 1922 it is hoped to restore to a large extent the traditional form of village communal self-government. The official and nominated element has been greatly curtailed on all local bodies. Tahsildars are no longer *ex-officio* members of District Boards; and Municipalities have been encouraged to elect non-official Presidents and Vice-Presidents. The District Board franchise has been broadened and made uniform all over the Province. The financial position of District Boards and Municipalities has somewhat improved, though partly by cutting down grants to essential services. In District Boards expenditure on Education, Communications and Medical Relief have all had to be reduced, and the condition of Municipal roads still leaves a great deal to be desired.

Public Health.

5. The year 1922 was an exceptionally healthy one in the Punjab. Though plague increased considerably, cholera only occurred in a very mild form. Relapsing fever appeared in several districts, and though not responsible for many deaths, gave rise to considerable apprehension. Financial stringency prevented any marked extension in curative medical work during the year 1922. By means of Itinerating Dispensaries, it is, however, hoped to afford a more widespread relief at a cheaper cost in rural areas.

Education.

6. The year 1922-23 has been in the main a time of harvest for the Education Department. The seed that was sown some years ago by the formulation of the 5 years' programme for the expansion and improvement of vernacular education has now grown to ripening. The main efforts of educational workers have therefore been devoted to the reaping of the harvest and to ensuring that the abundant crop shall not run to waste under the influence

of financial stringency. One result of the Reforms and of the consequent financial stringency has been the devotion of greater attention to the important problem of educational finance, and consequently educational progress has been far greater than the increase in expenditure from Rs. 190 to Rs. 220 lakhs would indicate. Special attention has been devoted to the education of the rural classes. Apart from the provision of agricultural training properly so-called the endeavour has been made to provide a course more on agricultural and less on literary lines. The problem of village education is also being approached from another side by the provision of schools for adults. The rapid rise in the number of Muhammadan scholars is a satisfactory indication of the spread of primary education among the rural and poorer urban classes.

Finance.

7. The financial changes made under the Reforms Scheme have necessitated a revision of budget procedure. The most important new departure is the definite separation of capital receipts and expenditure from revenue receipts and expenditure. Capital expenditure, so far from being a drain on the resources of the Province, is directly remunerative. Irrigation capital expenditure, for example, after paying all interest and other charges, affords a large net profit to the revenues of the Province. But the deficits on revenue account are in quite another category. The total deficit in these two Reform years amounts to Rs. 292 lakhs, and a further deficit of Rs. 63 lakhs has been budgetted for in 1923-24, making a total of Rs. 355 lakhs, so that the last three years have saddled the Province with an interest charge of Rs. 7 lakhs and a sinking fund of Rs. 25 lakhs, or a total Debt Service of Rs. 32 lakhs, for which the Province has nothing to shew at all. The present financial deficit, though it has been intensified by certain large items of expenditure passed by the Council, and by the Council's refusal to agree to new taxation, has its main origin in items of

expenditure and financial arrangements determined on before the introduction of the Reforms, including the large increase necessitated in the pay of establishments by the rise in prices. This has swallowed up the anticipated increase in revenue, an increase which was not actually realised. The actual increase of expenditure due to the introduction of the Reforms themselves only amounted to about Rs. 5½ lakhs annually. The net revenue from Excise which was Rs. 145 lakhs in 1920-21, and fell to Rs. 112 lakhs in 1921-22, has again fallen to Rs. 102 lakhs in 1922-23. This fall is due to the decreased licit consumption for country spirit following on the temperance policy of Government, in consequence of which though the rate of duty has been increased the receipts under this head have again fallen by Rs. 12 to 47 lakhs. By the financial arrangements made under the Reforms Scheme Income-tax receipts, half of which were previously credited to the Province, are now credited to the Imperial Government. The new Income-tax Department came into being on the 1st September 1921. With a population of just under 21 millions in the British Territory of the Punjab there are 24,683 assessees, of whom 3,011 are salary cases. Taking the demand of 70 lakhs, which is approximately what it is likely to be after all the appeals have been heard, we get an average tax of Rs. 284 per assessee.

Agriculture.

8. Agriculture will always remain the most important industry of the Punjab. Its climate, its great alluvial plains, its fertilising rivers and its communications with the ports of Karachi and Bombay render it specially fitted for the production of wheat and cotton, and these are commodities for which, as the world progresses, the demand must be constant and increasing. The season of 1922-23 was a very favourable one characterised by a good monsoon and plentiful winter rain. The wheat crop was the most important, being worth about Rs. 34 crores. The gram crop came next (the year being a very favourable one for this crop)

and was worth Rs. 11¼ crores. The next important crops were cotton and sugarcane worth about Rs. 7 crores each. Punjab-American cotton has been more used in Europe during the last two years than formerly owing to the shortage of the American crop. This is no small gain in helping to stabilise the cultivation of cottons of better staple, but the whole future of the crop is threatened by malpractices which are growing rapidly and will increase if not promptly dealt with. The object of the Co-operative Department is to examine the whole economic structure of the Province, to study the defects which retard economic progress, and to discover the factors which contribute to the comparatively low standard of prosperity. The mere reduction of indebtedness and the provision of cheap credit are not its objects, but its aim is the provision of sound, well controlled credit for productive purposes and the replacement of unproductive debt by productive borrowing. The last three years have been marked by many discouraging features; the financial condition of the Province has served to prevent the allotment of funds sufficient to maintain an adequate staff. Consequently except in a few outlying districts attention was devoted rather to the improvement and consolidation of existing societies than to the starting of new ones. The Lyallpur Co-operative Commission Sale Shops are attempting to solve the problem of marketing, while by the Consolidation of Holdings the evil of fragmentation is being removed from the Central Punjab. Valuable information as to the conditions of Punjab cattle was obtained from the cattle census held in February 1923. The quantity of cattle in the Punjab seems adequate, though not the quality. The tendency to keep cow buffaloes for milk and to purchase plough cattle from the Hariana or Dhanni tracts is increasing, and throwing an increasing strain on the good stocks of those areas. The question is one of increasing the available stock of fodder, which is diminishing with the extension of cultivation, and preaching the

cult of the pedigree bull, selected for its containing milk-producing and plough qualities. The buffalo problem is not so acute, as the people themselves seem to take more pains about buffalo selection and breeding. Some transport organization seems necessary to improve the urban milk supply. The whole cattle question deserves the careful attention and investigation which it is receiving from the Veterinary Department.

Production and Distribution.

9. The Forest Department continues to experience the difficulty which would be felt by any business organization which is handicapped financially by having to meet capital expenditure out of revenue. The financial year has proved the leanest on record. The trading account shews a gross profit of Rs. 1·94 lakhs. Deducting from this Rs. 1·64 lakhs, interest at 6 per cent. on capital expenditure for the last ten years (Rs. 34·32 lakhs) and Rs. 2·03 lakhs depreciation of timber and plant, there remains a net loss of Rs. 1·73 lakhs. The immediate cause of this deficit was due to the fall in value of timber. The relations of the department with the public are improving. With the association of local people in forest industries, such as lumbering and resin tapping, much has been done to avert antagonism. The financial position of the Punjab during the year 1922-23 precluded the initiation of new schemes of Industrial Development. Considerable progress was, however, made with schemes which had already been undertaken, and the activities of the Department of Industries as an agency for the encouragement of industries generally, and for the improvement of Industrial Education, were not curtailed, the expenditure on the Department rising from Rs. 5½ lakhs in 1921-22 to Rs. 8 lakhs in 1922-23. Progress in the extension of public electric supply in the Punjab will inevitably be delayed till the scheme for obtaining hydro-electric power from the Himalayas is completed. Oil springs have been known for many years to exist in the Rawalpindi and other districts

in the Punjab, but the output was insignificant until the discovery of the Khaur field, which still remains the only one worked, though numerous companies are continuing their activities in sinking wells in the neighbourhood. But the completion of the new road from Fatehjang to the oil-field at Khaur and the laying of a pipe line from Khaur to Rawalpindi have enabled Attock oil to be put on the market at a reasonable price. Owing to this opening up of the oil district the output of oil rose to 7½ million gallons in 1922. In 1922-23 the gross revenue receipts from Irrigation amounted to Rs. 531 lakhs as against an average of Rs. 4·75 lakhs in the previous triennium. This includes Rs. 1·71 lakhs, indirect receipts. Work is proceeding on the Sutlej Valley Project, and the survey of the land to be irrigated under the Thal Canal Project has been completed. The increase in gross earnings on the North-Western Railway from Rs. 13·02 lakhs to Rs. 14·47 lakhs is almost entirely due to the receipts from goods traffic, which is partially owing to the larger exports of wheat, consequent on the removal of the embargo on the export of wheat.

CHAPTER I.

PROTECTION.

(The slave, a member of the country's peace,
Enjoys it; but in gross brain little wots
What watch the king keeps to maintain the peace,
Whose hours the peasant best advantages.

SHAKESPEARE,— Henry V, iv, I.)

Increase in crime.

1. Crime which had decreased during the War was increasing from 1919 onwards, but showed a tendency to decline towards the end of the year under report, which has been maintained since. The prevalence of crime was partly due to demobilization, but the causes were also partly economic and partly political, and with the improvement in the economic and the political situation security also has of late improved. Even since the conclusion of peace, however, crime has never reached the high figures prevailing in the year immediately preceding the War. While however crime, generally speaking, has, after increasing since the peace, begun again to decrease, the more serious forms of crime have, as noted below, maintained their tendency to increase.

Political agitation.

2. At the commencement of the year 1922 political agitation and the spirit of defiance engendered by the non-co-operation movement were still gaining ground. The Seditious Meetings Act was repeatedly defied in Lahore and Amritsar, and Volunteer organizations continued to make demonstrations long after they had been declared illegal associations. In several districts parties of Volunteers, who attempted to interrupt the auctions of lipour contracts, had to be dispersed by force. In January, on the arrest of a political agitator at Jhajjar in the Rohtak district, his supporters took possession of the Town Hall, hoisted national flags and removed the octroi posts. Order was not restored until the mobs had been forcibly dispersed by a party of Additional Police and the leaders had been arrested. A detachment of British troops had to be posted to Rohtak until the return of normal conditions. The Congress and Khilafat* movements waned later in the year, and before its close ceased to attract public attention. Communism, inspired by Bol-

* See 1921-22 Report, II, 1.

shevik influences, however continued to spread to some extent.

The Sikh question: the struggle at Guru-ka-Bagh.

3. As in 1921 the Sikh question formed the most serious problem of the administration of the Province. Bands of Akalis* moved about some of the central districts intimidating supporters of Government, travelling without tickets and proclaiming that Sikh rule was about to commence in the Punjab. In March 1922 it became necessary to carry out demonstrations with troops in the Doaba and other selected areas, to arrest considerable number of Akalis, and to impose a number of punitive posts. This had a steadying effect at the time. At the beginning of July the arrest of Master Mota Singh was effected by the local Police at his village Patara in the Jullundur district. About July an association, called the Babbar Akali Jatha, was formed for the purpose of assassinating village officials and others who were known to be loyal to Government, and simultaneously began the publication of a seditious cyclostyled leaflet entitled "The Babbar Akali Doaba Akhbar." In August 1922 trouble broke out in the Amritsar district over the ownership of land attached to the shrine at Guru-ka-Bagh. The shrine had been seized by a band of Akalis in February 1922, but the residential quarters and lands remained in the possession of the Mahant. In August the Shiromani Gurdwara Parbandhak Committee determined to make an effort to secure the land, and five Sikhs employed in the Gurdwara trespassed on the land and cut down some wood. On complaint being made by the Mahant the trespassers were prosecuted and convicted of theft. The Shiromani Gurdwara Parbandhak Committee protested against the conviction, and claimed that, land attached to the shrine was shrine property, and that trees growing thereon were the property of the Panth for use in the Guru's *langar*. Volunteers were called up to repeat the original offence and a struggle ensued between the Akalis, organized by the Shiromani Gurdwara Parbandhak Committee, and Government, resulting in the arrest of 5,000 Akalis. The struggle continued until November when the incident was closed by the lease of the land in dispute to a third party who gave permission to the Committee to use it. The open defiance of Government which these proceedings involved

*See 1921-22 Report, I, 654 foll., II, 2, 3.

encouraged rioting in the Amritsar district, and necessitated a temporary increase in the Police Force.

Hindu-Muhammadan riots at Multan.

4. While these events were occurring in Amritsar other causes led to an outbreak of disorder at Multan in the south-west of the Province. In that region the harvest depends on the rainfall and the Muhammadan zamindar, therefore, lives mainly on credit. The fall in prices which occurred in the middle of 1922 left him with a heavy burden of debt and with little means to repay. The Hindu moneylender, therefore, restricted credit and endeavoured to recover his loan through Civil Courts—a procedure which rendered the position of the Muhammadan zamindar still more difficult. Possibly these economic causes had to do with the communal outbreak which occurred at the Moharram. On the 3rd September, a *tazia*, representing the shrine of Hassan and Husain, the Muhammadan saints, while being carried in procession, struck a private telephone wire and was damaged. The processionists blamed the Government for putting its wires in the wrong place until some one suggested that the wire belonged to a Hindu whose shop was near the spot. Thereupon the Muhammadans broke the telephone instrument and some furniture. At this stage a stone was said to have been thrown by a Hindu, and rioting began. As is usual in such cases, false rumours quickly spread, and the rioting was only put down after a certain amount of damage had been done. Next day the fury of the Muhammadans was increased by the murder of a harmless Muhammadan in a Hindu quarter. Two Muhammadans and four Hindus were killed during the riots, and both sides aimed at damaging the other rather than looting.

Non-political crime.

5. Apart from these, and partly from economic causes and partly as a consequence of the relaxation of authority caused by political disorder, serious forms of crime have been on the increase. Robberies and burglaries were conspicuous in the central districts where the Akali movement prevailed. In the riverain tracts cattle theft was rife, but as usual comparatively few cases were reported, as owners of missing cattle generally prefer to negotiate with the thieves for the return of the stolen property rather than to seek the aid of the Police and thus scare the thieves into disposing of valuable animals altogether. Traffic in women is assum-

ing serious proportions in the eastern and central Punjab. Few cases are however reported. It is usually only when the women have proved unfaithful or some fraud has been practised by the seller that Police assistance is sought. The traffic arises out of a shortage of marriageable women and is very lucrative. While many of the women brought for sale, particularly those of inferior caste, readily acquiesce in the arrangement, others are undoubtedly seduced and abducted, and finally sold when too demoralised to care what happens to them. The legislation embodied in the Indian Penal Code Amendment Act, 1923, has come none too soon.

Raids on the Frontier.

6. On the Western Frontier disorder was mainly due to outside activities. A large proportion of the dacoities committed in the Attock and Mianwali districts were the work of Frontier raiders accompanied by outlaws. Two well-known outlaws brought a gang across the Indus to a village in the Mianwali district, where they took property valued at over Rs. 12,000 and kidnapped one man; two women and two children. The women and children were rescued by a pursuit party in the Bannu district of the Frontier Province, and the man was wounded and abandoned because he was unable to keep up with the gang. One of these outlaws has since been arrested. The campaign against outlaws which is being conducted in the North-Western Frontier should do much towards preventing further raiding in the Punjab. On the Southern Frontier crime is due rather to family differences than to the forces of disorder. In the Dera Ghazi Khan district, where 22 murders were committed during the year, Baluch custom still demands the murder of an unfaithful wife and her lover. Murder is, therefore, likely to remain a common feature among the Baluch tribes for some time to come.

Increase in serious crime.

7. The prevalent unrest and high prices are reflected in the increased number of serious offences against property. The following table indicates sufficiently the state of affairs:—

Head of crime.	1918.	1919.	1920.	1921.	1922.
Dacoity	84	169	111	187	435
Robbery	243	332	371	573	564
Theft	7,726	8,916	8,357	9,585	9,403
Receiving stolen property ...	1,541	1,935	1,924	2,096	2,050

The outstanding causes of this state of affairs have been indicated above. The reluctance of magistrates to convict is also quoted as a contributing factor. The reasons for this are various. The defence is usually more ably conducted than the prosecution, which in many cases is not represented at all. Nor is there the co-operation between the Bar and Bench which obtains in England and prevents perjury therefrom becoming the scandal that disfigures Courts in India. Even good cases are often spoiled by the introduction of bad evidence or the attempt to implicate innocent persons as well as those who are really guilty. Magistrates also fail to make adequate use of section 203, Criminal Penal Code, which enables them to dismiss a case at the outset. Consequently a disproportionate amount of their time is taken up in trying cases which should have never been brought into a Court.

The investigation of crime.

8. Moreover, the antagonism which undoubtedly exists between the public and the Police prevents the proper investigation of crime at the start. The antagonism is not lessened by the large number of cases brought by the Police under section 107, Criminal Procedure Code, involving this year nearly 40,000 persons. The increase in serious crime has also coincided with the reduction of supervision by gazetted Police officers, and has varied inversely with that supervision. This reduction has now almost reached a final stage when there is nothing left to reduce, and, whereas 20 years ago a Superintendent or Assistant Superintendent of Police proceeded himself to the scene of a murder or a serious dacoity and personally supervised the investigation, the work is now left entirely in the hands of the subordinate staff. Police work is now more complex and more difficult, and Superintendents are very fully occupied with matters of routine and heavy correspondence, and are also expected to report frequently on the political situation. At the same time it is beyond question that the primary duty of a Police force is the detection and prevention of crime, and that a case, which is destined to cost a very large sum of money, to involve very serious consequences, and to occupy the time of several highly paid members of the judicial service and Government counsel, demands more than an initial impulse from Superintendents of Police. The High Court suggest that the superior staff should be doubled, and in every dis-

trict in addition to the Superintendent in general charge there should also be a Superintendent who would devote his time to the investigation and sending up of cases.

The Jirga system.

9. The Jirga system* under the Frontier Crimes Regulations continues in force in the districts of Dera Ghazi Khan and Mianwali and in the Leiah tahsil of the Muzaffargarh district. These areas all adjoin the Frontier, and the primitive conditions there obtaining render it difficult to maintain order by the usual judicial processes. The system has been most successful in the Dera Ghazi Khan district where the machinery was already in existence before the advent of British rule owing to the tribal constitution of the Bilochi nation. Its extension has been advocated to the portion of the Shahpur district which lies within the Salt Range, but the absence of such a tribal machinery among the Awans and other Salt Range tribes would probably render the introduction of the system impracticable there. In the districts in which the Frontier Crimes Regulations is in force the Deputy Commissioners on the finding of a Council of Elders may pass sentence up to fourteen years. The percentage of convictions by the Council of Elders is only 40 as against a percentage of 57 in cases where the Police prosecute in ordinary criminal courts. These figures constitute an effective reply to the popular criticism of the Frontier Crimes Regulations as being a means of enabling district officers to secure convictions whenever they like and at any cost.

Poisoning cases.

10. The detection of poisoning cases mainly rests with the Chemical Examiner to Government, Punjab.† Articles are now only forwarded to the Imperial Serologist at Calcutta in cases in which it is considered necessary to determine the source of the blood. The Chemical Examiner has received much valuable help from the admirable history of the case and description of the symptoms given by forwarding medical and Police officers. This enabled an immediate successful search to be made for the poison indicated, saving much time, labour, and material that would otherwise have been expended in searching for other possible poisons. In the human poisoning cases opium and arsenic continue to

* See 1921-22 Report, I, 101, 142.
† See 1921-22 Report, I, 196.

be most commonly used. *Datura* " the Thags' poison," a dangerous deliriant narcotic, is still frequently used to facilitate robbery by stupefying the victims. In most of these cases there is probably no homicidal intent, but death often results from an overdose. *Datura* is also used as an intoxicant, either by itself, or added to country liquor. The *Datura* plant is widely distributed throughout India, and consequently it is difficult to regulate its use by legislative or other measures.

Overcrowding of the jails.

11. The general condition of lawlessness which prevailed in the Province during the year 1922 would have in any case entailed a considerable increase in the jail population ; but apart from this, 5,000 arrests were made in connection with the Guru-ka-Bagh affair (*para.* 3). The result was that the jail population averaged about 25,000, *i.e.*, 3,000 more than that in any of the past five years, probably constituting a record for the Province. This was in spite of the fact that the Local Government had endeavoured to relieve overcrowding by releasing, under proper safeguards, well-behaved prisoners who had served two-thirds of their sentences. Overcrowding has been serious for some years, but financial considerations have prevented the construction of a new Central Jail and of additional Borstal Institutions which are badly needed. The exceptionally large jail population was accommodated by the improvisation of temporary jails at Montgomery, Amritsar and in the Attock Fort and by erecting camps within the walls of existing jails where the actual ground space is ample. By the construction of barbed wire barriers it was possible to confine prisoners in tents without using the belchain, and overcrowding was entirely avoided.

Deterioration of jail discipline.

12. In spite of these difficulties the recommendations of the Indian Jails Committee were carried out so far as financial conditions would allow. Improvements were made in food and clothing ; a beginning was made with the provision of religious teaching; the use of the belchain was abolished; jail punishments were revised ; the remission system was made more liberal ; and concessions were made with regard to interviews and letters. But these alleviations did not produce any increased respect for authority. The standard of dis-

cipline in jails again deteriorated. Serious outbreaks occurred in the Ludhiana and Montgomery jails and minor outbreaks wherever Akali prisoners were confined. The Akalis were treated throughout with special consideration. Extra blankets and clothes were given to them, and their defiance of all Jail rules was borne with exemplary patience. The reluctance on the part of the authorities to inflict the punishment of whipping emboldened these prisoners to such an extent that in some places it necessitated the use of arms in order to suppress the state of mutiny which prevailed. Their example had a demoralizing effect on the other prisoners. Throughout the year 1922 the press gave space to constant complaints of a flagrantly false and malicious nature with regard to the treatment of these prisoners in Jail. All the more serious complaints were enquired into, and they were invariably found to be baseless.

Increased expenditure on prisoners.

13. The large influx of prisoners made it impossible to organize their employment on the most efficient lines, and the Akali prisoners contumaciously refused to perform the task allotted to them. The blankets and clothes provided for them had to be procured at very short notice and at extremely high prices. This increase in expenditure and diminution in income resulted in a net increase of expenditure amounting to Rs. 7 lakhs. The Province had to pay heavily, both in Police and Jail charges, for the lawnessness inculcated by the non-co-operation and Akali movements whose lessons were readily learned by the ordinary criminal classes. The importance of keeping child offenders from entering jails was sufficiently recognized, but the provision of the necessary institution for the purpose had to be postponed owing to the financial stringency.

Criminal Tribes: satisfactory working of the new scheme.

14. The new system of dealing with criminal tribes inaugurated in 1917* is beginning to have effect. In 1916, before the inauguration, the number of registered members of criminal tribes was 12,500. The number in 1922 was about the same. Yet the number of convictions under the Indian Penal Code of such members has diminished from 974 to 154. As will be seen from the statement below it

*See 1921-22 Report, I, 91, 92.

has been possible to greatly diminish the number of those on the register :—

Year.	Members of Criminal Tribes (thousands.)		
	Settled.	Wandering.	Total.
1917	23	11	34
1918	21	10	31
1919	20	7	27
1920	16	4	20
1921	12	4	16
1922	9	3	12

When the system was inaugurated care was taken to include all members of wandering tribes. As will be seen from the above statement nearly two-thirds of these have been released. The process of eliminating the comparatively harmless element of the criminal tribes is being steadily continued, and 4,419 members were exempted in 1922.

Criminal habits due to economic causes.

15. Experience has demonstrated that the criminal habits of the tribes were mainly due to economic causes. Prior to 1917 these wandering tribes lived a nomadic life, plucking a precarious livelihood by begging or stealing. They were shunned by society and were left with no other possibility of livelihood except theft. With the inauguration of the scheme they were restricted to definite areas and offered the alternative between a village life, which left them a certain amount of liberty and settlement life, which entailed entire loss of it. Agricultural settlements have been founded for the better behaved tribesmen. Land hunger is now as strong with these people as with other classes and the prospect of a grant of land is a great incentive to good behaviour, while the living it provides helps to remove the temptation to crime. Industrial settlements have been less successful, open air life being more suited to the temperament of these nomads. It is therefore unfortunate that Budget considerations have hampered the extension of the four forest settlements. The Reformatory Settlement at Amritsar

which is intended for the worst behaved of the criminal tribesmen has expanded till, at the end of 1922, the population reached 1,018. Even then, except in the case of the most desperate characters, a large amount of liberty is allowed, and most of the inmates work for private employers in the city.

Education of their children.

16. While the settlements are proving efficacious as a means of reformation, the best hope for the permanent redemption of these degraded classes lies in the education of their children. The number of children attending schools in the settlements and in villages is well over 3,000. In the settlements girls are taught the elements of domestic economy. The Canadian Anglican Mission at Palampur has started a weaving school for boys, and there is a Railway Settlement at Moghalpura where good wages can be earned and the inmates have the chance of learning skilled trades. The children are usually above the average in intelligence and shew extraordinary keenness to learn. This is a fact which seems to indicate that their criminal propensities are due not so much to original sin on their part as to a social system which left them no opportunity of leading a useful life.

Civil Justice: Duration of suits.

17. The annual number of civil suits instituted in all courts seldom varies by more than 5 per cent. from a normal of 190,000. In the influenza year of 1918 the number fell as low as 174,408 and in 1921 non-co-operation and agricultural scarcity combined reduced the number to 177,000. This year the number instituted is 187,000, which is a normal amount. The pending file continues to rise, and has this year nearly reached 60,000. The average duration of a contested suit has risen to 130 days. The rise is due partly to the disposal of old cases pending on account of the War. The pending file of appellate work in the High Court has increased, but the outturn of work in 1922 was considerably greater than that of 1921. If the practice observed in Madras, by which District Munsifs of 7 years' standing dictate judgments in open Court to shorthand writers, were extended to the Punjab it would help considerably in reducing the average duration of suits. Delays are also partly attributed to the unsatisfactory nature of the process-serving establishment. Efforts have been made to improve it, and the supply of bicycles to process-servers in the Lahore

district has secured an increase of 42 per cent. in the number of processes served.

Delays in execution.

18. The impossibility of getting decrees executed within a reasonable time constitutes a great blot on the present system of administering civil justice. Litigants make every endeavour to delay and hamper execution, and the agency of process-servers, *naib-nazirs* and *madad naib-nazirs* is unsatisfactory. It has been suggested that the whole execution work of a district should be placed in the hands of a single Court having the powers of a Sub-Judge of the 1st class. Enquiries are being made into the possibility of this scheme, and if found practicable it will be tried experimentally in one district. Execution work is also hampered by the unpunctual attendance at Court of some presiding officers. The Sub-Judges do not offend in this respect to the same extent as Magistrates, but in many civil courts business is not commenced precisely at 10 o'clock. The result is often that execution work is not taken up until late in the evening, after Court hours, when members of the Bar, clerks and even litigants themselves are anxious to get away, and the cases are dealt with hurriedly and without proper attention.

Registration Statistics: their economic aspect.

19. The statistics of the Registration Department* have a more than departmental value owing to the light which they throw on the general economic conditions of the Province. The analysis of registrations affecting immovable property illustrates only too clearly the tendency for capital to seek investment in land rather than in the industrial development of the Province. The remarkable increase in the number and value of compulsory registrations of immovable property which was noticed in the years 1917—19 has been more than maintained in the three succeeding years. The number of compulsory registrations affecting immovable property has risen 26 per cent. as compared with the last triennium, while the value of the property affected has more than doubled since 1916. The number of optional registrations affecting immovable property in 1920-22 has decreased by 23 per cent. as against the figures for 1917-19, and the value of the property affected by optional registration has decreased by Rs. 22 lakhs, or considerably more than half of the last triennial total. This decrease is to be accounted

* See 1921-22 Report, I, 111.

for partly by the steady enhancement of land values which has made the registration of a greater number of transactions compulsory, and partly by a growing confidence in entries made in Revenue records, which are in many cases treated by the parties to a transaction as equivalent to registration.

Demand for land as an investment.

20. During the triennium 1920-22 there was a substantial increase spread fairly evenly over the Province in compulsory registrations both of sales and mortgages of immovable property. The increase in sales is due to a variety of causes which range from speculation in land to poor agricultural and trade conditions. In Rawalpindi and Mianwali the profits accumulated by certain trading communities during the war, and in the latter the savings of soldiers also, were largely invested in land. All these facts serve to illustrate the increasing demand for land as an investment. It is difficult to draw conclusions from the figures relating to mortgages. A rise in the number of mortgages does not necessarily indicate agricultural depression. In the triennium 1920-22, property, due to failure of crops and fluctuations in prices, was no doubt responsible for the execution of many mortgage deeds. On the other hand, the possibility of obtaining enhanced profits from land led agriculturists to raise money by mortgage in order to extend their holdings. There was, moreover, a considerable reluctance on the part of owners of houses and sites in big towns to transfer them otherwise than by mortgage, as they expected that the price of landed property would rise again to the level to which it rose in the boom of 1919.

Increased income from Registration.

21. In the actual administration of the Registration Department the most noticeable feature was the introduction of revised scale of fees, which came into force from 1st January 1922. The number of documents relating to immovable property registered during this year and their aggregate value shewed a slight increase as compared with the figures for 1921. In Rohtak, and still more in Gurgaon, the decrease was considerable, the enhancement of registration fees having led to a considerable increase in the number of sales made by means of mutations only. This indicates that a point may be reached when increased fees will no longer bring in an increased income. In spite of this ten-

dency there was nevertheless an increase of Rs. 1·39 lakhs in fee income on the preceding year due to the enhanced fees. The income of the Department increased by about Rs. 6¼ lakhs from Rs. 12·65 lakhs in 1917-19 to Rs. 18·95 in 1920-22, while expenditure increased by about Rs. 2¼ lakhs from Rs. 4·58 to Rs. 6·79 lakhs, leaving an increase in the net income of Rs. 4 lakhs. A substantial part of the increase in net expenditure is attributable to the enhanced commission payable to Sub-Registrars as a result of the introduction of the new scale of fees referred to above. In view of the need for economy and of the fact that many of the offices of Sub-Registrars in the Province actually transact a very small amount of business which could be suitably dealt with by official agency, it has been decided to bring a number of Sub-Registrars under reduction as opportunity arises, where this can be done without inconvenience to the public. It was considered that the Registration Department should be able to produce considerable revenue at a comparatively small cost of collection, and in addition to measures of retrenchment the fees were in 1923 still further enhanced.

The Baluch Frontier.

22. The Baluch Frontier has not yet completely recovered from the famine conditions of 1920 and 1921.* The cattle census sufficiently testifies to the depletion of live-stock which forms the capital of the hill people and their only means of facing future difficulties. In 1921 *takavi* (as a Government loan to agriculturists is called) was granted both in cash and kind, the latter in the form of wheat. But the method of relieving distress by *takavi* is of doubtful value in the hill areas. Such grants are not used for productive purposes. Much of the money is absorbed on its way down and even that which actually reaches the people themselves is regarded by them as a free gift from Government. Recoveries are looked upon as taxation with unfortunate political effects. The realization of *takavi* as of political fines provides the most difficult problem in the political working of the Dera Ghazi Khan district.

*See 1921-22 Report, II, 9.

CHAPTER II.

THE LEGISLATIVE COUNCIL.

Reserved and Transferred subjects.

23. Written constitutions have a tendency to develop on lines which their framers did not anticipate. The practical working of American Presidential elections is on lines quite different from those intended by George Washington. Similarly, in the Punjab administration the distinction between reserved and transferred subjects* already shows a tendency to disappear. Many questions affect both reserved and transferred departments, and in practice it has been found impossible to discriminate. In the allocation of funds the distinction between reserved and transferred subjects has been treated as one between the beneficent departments of Government (Education, Medicine, Public Health, Agriculture, Industries, and Miscellaneous Scientific Departments), which are under the control of the Governor acting with his Ministers, and those which are either revenue producing or deal with the administrative machinery of Government, which are under the Governor in Council. Funds have indeed always been short.† But their allocation was easy till the budget of 1923-24 when money was very scarce.‡ After several conferences however the Members and Ministers came to an agreement amongst themselves without reference to the Governor. A substantial reduction was made in the expenditure of all departments, the allotment of the transferred provisions between the Ministers themselves being effected by mutual accommodation.

Standing Committees of the Legislative Council.

24. The Standing Committees of the Legislative Council form a valuable channel for the interchange of ideas between the Executive and the Legislature. The Standing Committee on Public Accounts is constituted by Statute, but others have been formed dealing with Finance, Land Revenue, Canals, Education, Public Health, Local Self-Government, Agriculture, Industries, Co-operative Societies, Police and Jails. Of these the most important and influential is naturally that on Finance. In addition

* See 1921-22 Report, I, 64.
† *Id.* I, 129.
‡ *Id.* II, 77.

to its advisory functions, the Council has delegated to it certain limited powers of reappropriation between grants already voted. It also advises on all proposals for new expenditure and is consulted by the Finance Department before the latter authorises recurring expenditure above a certain amount. Through the Finance Committee Government is enabled to ascertain non-official opinion on matters which are going to be discussed in Council. The proceedings of these Committees are informal and confidential, only the final decisions being recorded and published. The members of the Finance Committee have obtained thereby an insight into financial principles, which has enabled them to deal with financial questions in the Council. Besides the Standing Committees a few Special Committees have also been appointed on the recommendation of the House to deal with special questions, such as the award of compensation to martial law sufferers, the principles to be followed in assessing land revenue, financial retrenchment, Honorary Magistrates or the separation of judicial and executive functions, or popular matters such as the supply of milk and *ghi* or the educational needs of zamindars. The recommendations of these Committees have in certain cases been accepted by Government, which has in every case given them the fullest consideration.

Financial criticism.

25. In the strict scrutiny which it has made into all budget proposals for expenditure, the Legislative Council has not always succeeded in exercising effective financial control. In the debate on the budget of 1923, 2,000 amendments were tabled. But much time was wasted in the discussion of small reductions, and consequently many important grants had under the rules to be passed without discussion. Much suspicion was shown of demands for expenditure in the Forest Department, and there was a disposition to criticise the Agricultural Department, as above the heads of the people. The demand for Police was subjected also to criticism ; but ultimately passed without any deductions except those to which the Member in charge agreed. On the other hand, the Education budget was passed without question. The reductions made by the Council amounted to Rs. 39 lakhs in the budget of 1922-23 and Rs. 28 lakhs in that of 1923-24. No item struck out has been restored by order of the Governor, but it has been

found necessary to ask for supplementary grants to make good certain reductions.

Reluctance to sanction new taxation.

26. As was to be expected the Council has shown great reluctance in imposing new taxation. There is a general feeling that the Punjab has been over-assessed in its provincial contribution,* and that it is to a reduction in that contribution that the Province should in the first instance turn for an improvement of the financial situation. But the reluctance is mainly due to the general and natural dislike of the constituencies to any form of taxation. Such experience as members themselves have obtained of financial realities has certainly not penetrated to their constituents, and it is practically impossible for any member to convince the electors of the necessity for any increase of taxation whatsoever. Since the inauguration of the Reforms the Council has voted an increase of revenue of about Rs. 26 lakhs by means of amendments of the Court-fees and Stamps Act, but it negatived a Government motion to appoint a Committee of Ways and Means to examine methods for raising new revenue to meet the Provincial deficit.

Proposals for increased expenditure.

27. But though careful in acceding to the demands of certain departments, the Council was lavish in its proposals in other directions. Increased emoluments for *lambardars*†, and *zaildars*,‡ subordinate medical officers, and chaprasis, and an increased daily allowance for members themselves were proposed and carried by the Council, though these resolutions were not all accepted by Government. The most important of the financial liabilities assumed by the Council was, however, one of Rs. 20 lakhs levied on the city of Amritsar for damage done in the riots of April 1919, and one of Rs. 22½ lakhs for compensation awarded by a Committee to the sufferers at Jallianwala Bagh and elsewhere in the same riots. The financial powers of the Council are exercised subject to certain constitutional principles not explicitly stated but borrowed from the practice of the Parliament of the United Kingdom, such as one that reappropriation is not to be made towards a new service without the Council's consent.

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* See 1921-22 Report, I, 122.
† *Id.* I, 157.
‡ *Id.* I, 264.

Moderate views of the Council

28. The first enlarged Punjab Council on the whole represented the more moderate current of political opinion in the Province and was by no means an extremist body. It was definitely loyal and on the side of law and order. Its loyalty was shewn in its attitude to His Royal Highness the Prince of Wales and to the Governor personally, while from the failure of a motion for adjournment in connection with the Seditious Meetings and Criminal Law Amendment Acts it may be inferred that it would have been ready to support Government in taking strong action in any real emergency. Racial questions were usually approached in a friendly spirit. A large number of the members of Council are landed proprietors of moderate means, and are thus typically representative of the Province as a whole. They are shrewd, cautious, and strongly imbued with the conservative ideas traditionally associated with the farmer class. The residential qualification in force excluded the carpet-bagger from candidature in 1920, and consequently all rural members were in close touch with the needs of their constituencies. Urban members were for the most part lawyers, with a sprinkling of commercial men and retired officials.

The Muhammadan rural party.

29. The Muhammadans in the Council were organized into a practically solid party of 35, prepared on most questions to follow the guidance of the Muhammadan Minister. As the Muhammadans mainly represent rural constituencies, they formed also the bulk of a rural party, which allied itself with rural Hindus and Sikhs, when questions arose which affected rural, as opposed to urban, interests. A proposal to facilitate the acquisition of land for industrial purposes was suspected by the rural members to foreshadow an attempt to repeal the Alienation of Land Act,* the Magna Charta of the Punjab zamindar, and was therefore rejected. But the chief aim of the Muhammadan party was to further in all ways the interests of the followers of Islam and to secure a greater share of representation in the public services and on local bodies for their co-religionists. Apart from the Muhammadan Minister there was no prominent party leader. The fifteen Sikh members were chiefly interested in questions which concerned their community, and as a

*See 1921-22 Report, I, 239, 541.

rule they voted on all questions affecting Sikhs in accordance with the wishes of the Shiromani Gurdwara Parbandhak Committee.*

The official members.

30. The official members formed the only completely solid party. Fourteen in number, they were led by the senior member of the Executive Council. The theory that official members are at liberty to speak and vote as they please broke down, and it was not found possible to allow them full freedom to express their views and to vote as they liked. They were required to support Government by vote on a motion for adjournment when this amounted to a vote of censure, and also on any other vital matters, such as land revenue policy or any question involving peace and order. It was found essential that on all such important matters there should be complete unity among the official members.

* See 1921-22 Report, I, 656.

CHAPTER III.

LAND ADMINISTRATION.

Realisation of Land Revenue.

31. The season of 1921-22 was on the whole favourable except in the east of the Province (*para.* 119). This fact combined with high prices made the recovery of large arrears of land revenue a comparatively easy matter. In the areas which comprise the Gurgaon and the greater part of the Hissar districts in the east conditions were very unfavourable, and but for the fact that the whole Province is now practically secured against famine by its magnificent canal system there would have been serious anxiety as to the possibility of famine conditions being established in these areas. The total amount of fixed and fluctuating land revenue to be collected was Rs. 417 lakhs, of which 407 lakhs was actually recovered. Of the fixed land revenue, it was necessary to suspend Rs. 4½ lakhs in Hissar, 1¼ lakhs in Gurgaon and just over half a lakh in Rohtak and Sialkot. In all the other districts affected less than half a lakh in each case was suspended. Of the land revenue under suspension at the beginning of the year (amounting to Rs. 41¼ lakhs) no less than Rs. 29 lakhs belonged to the previous year 1920-21 when the season was very unfavourable. Gurgaon, Hissar, Attock, Jhelum, Sialkot, Rohtak and Shahpur are the districts in which the largest amount of fixed land revenue is under suspension. In Gurgaon, Hissar, Attock and Jhelum the pitch of the land revenue is light, and their rules provide that the land revenue shall be suspended freely in bad years and collected again without scruple in good years. In these districts, in fact, the fixed land revenue sometimes approximates in character to fluctuating land revenue, so freely is it suspended and so easily are the sums suspended subsequently collected.

Coercive processes.

32. The fact that the land revenue of the Province as a whole is a very light burden is proved (if a proof is necessary of what is really sufficiently obvious) by the fact that this large sum of over four crores is collected with the greatest ease. Over 14,000 coercive processes were issued during the year under report. Of these about 7,600 were writs of demand. These formal documents are called coercive processes only by a stretch of language. They amount to little more than a registered notice demanding payment, such as is frequently

issued by creditors against debtors both in this country and in other countries. Of the remaining 6,500 processes, the great majority of which were warrants of arrest or distress warrants, only 3,500 were actually executed, the majority of these being warrants of arrest. A mere recital of these facts is sufficient to establish the proposition that the burden is light, and that the people of the Province who pay this large sum so punctually must be essentially contented. The method of paying land revenue and other revenues by money-order is becoming increasingly important. Over 25 lakhs of rupees were paid by this agency during the year 1921-22. As may be expected, this means of paying money is normally used for small sums. For larger sums it is still found cheaper and more convenient for the revenue-payer to take the money to the nearest Government Sub-Treasury himself.

Settlements

33. During the year 1921-22 settlement operations were being brought to a conclusion in the Pakpattan and Dipalpur tahsils of the Montgomery district and forecast reports were prepared for the Bhakkar tahsil and Saadat Miani villages in the Mianwali district, the Khangah Dogran tahsil of the Sheikhupura district and the Hafizabad tahsil of the Gujranwala district. Owing to the attitude of the Legislative Council towards the grant of funds for the re-assessment of the non-colony portion of the Jhang district, there was some delay in beginning of the re-settlement of that area. In the settlements now being conducted in the Province, Government is adhering to the promise made to the Legislative Council that the districts to be re-assessed should receive the benefits of any amendments of the law suggested by the Committee appointed to consider amendments of the Land Revenue Act and approved by Government. In none of the assessments made since the undertaking was given to the Legislative Council has the estimated amount of land revenue assessed exceeded one-third of the nett assets of each assessment circle.

Amalgamation of Canal and Revenue Staff on the Western Jumna Canal.

34. *Patwaris** are still accounted as village and not Government servants ; but their pay, formerly borne directly by the people themselves, is now a charge upon Government, and amounts to more than Rs. 25½ lakhs. The cost of

* See 1921-22 Report, I, 269, for the functions of patwaris.

Canal *patwaris** is Rs. 5½ lakhs. Suggestions have been made for the reduction of these two items of expenditure by increasing the area of *patwari* circles and by the amalgamation of the Canal with the Revenue cadre. If the movement initiated by Co-operative Credit Societies in the direction of consolidation of holdings† becomes general, land record work and *girdawari*‡ will be simplified and a reduction in the number of *patwaris* may result. Already in areas where consolidation has been carried out under the system known as *killabandi*§ it is possible to make *patwari* circles larger than elsewhere. Steps are being taken to amalgamate the staffs of Revenue and Canal *patwaris* in the British Territory irrigated by the Western Jumna Canal. From the results of this amalgamation it will be possible to decide whether its extension to other canals is feasible.

Educational standard of *patwaris*.

35. The modern tendency is to throw upon *patwaris* an increasing burden of work, much of which is only remotely connected with their duties as petty officials of the Department of Land Records. Such, for example, is the work of preparing registers of voters for the Council of State, Legislative Assembly and Legislative Council. It is plain that the greater the amount of this miscellaneous work the more necessary it is to have as *patwaris* men of a higher standard of intelligence, and of better education than formerly. It is not difficult for a man to fall into the routine of record work, and to perform his duties mechanically. It is much more difficult for him to do work which is outside that routine. Side by side with this necessity of having better educated men, there is the fact that there has been a nominal reduction in the standard of education by the introduction of the four-year school instead of the five-year primary school.‖ The question of fixing a middle-passed standard for *patwaris* is therefore under consideration. It is essential that the standard of education should not be fixed so high as to lessen the supply of candidates of agricultural classes, nor should it be so low as to admit men who will not be able to perform satisfactorily the miscellaneous duties which *patwaris* are now expected to perform. Probably a solution will be found at first by only

* See 1921-22 Report I, 391.
† *Id.* I, 235 foll.
‡ *Id.* I, 255.
§ See 1921-22 Report I, 253.
‖ *Id* I, 435.

insisting on a middle-passed standard in such tahsils in various districts as are educationally advanced.

Housing of *patwaris*.

36. The question of housing *patwaris* continues to cause anxiety owing to the difficulty of deciding how far Government should assume the responsibility for providing accommodation for *patwaris* and their records. In certain villages *patwaris* do undoubtedly find a difficulty in obtaining accommodation. In large villages and towns though accommodation can generally be easily got the *patwari* has to pay a considerable rent to obtain it. In a large number of villages the old tradition of the *patwari* as an official of the village community* still subsists. In such villages the villagers willingly provide him with accommodation. It has, therefore, been difficult to formulate any general principle applicable to the Province as a whole. Before 1919 Government's responsibility in the matter was limited to providing housing accommodation in cases where it was clearly shown to be impossible for the *patwari* to provide himself with a residence. Expenditure on repairs was only granted in the case of serious damage from floods or other circumstances beyond the *patwari's* control. In 1919 the desire to remove discontent gave rise to more generous ideas. It was decided that where *patwarkhanas*, as *patwaris'* houses are called, did not already exist they should be provided by Government, and in all cases repairs should be carried out at Government expense. These ambitious projects were soon curtailed by the oncoming financial stringency, and at the end of 1921 this proposal was withdrawn and Government reverted to its original limitation of responsibility. As a matter of fact the construction of *patwarkhanas* had already outrun the arrangements for keeping them in repair. With the limited money available it has been considered desirable to limit activity in this direction to the maintenance of existing *patwarkhanas* and to defer the question as to whether new construction is desirable till funds are available for the purpose.

Necessity for supervision of the revenue work of subordinates.

37. District revenue work is beginning to recover from the disorganization caused by war activities and the political unrest which succeeded. District officers have still, however, very little time to devote to super-

* See 1921-22 Report, I. 156.

vision, and their immediate subordinates tend to follow their example. Cases dealing with partition of land are unnecessarily delayed. Much litigation connected with the agricultural land is due to the fact that partition work has not been carefully and promptly done. Generally speaking, however, revenue records are sufficiently accurate and up to date for all practical purposes, but the object in view is now to keep them at such a level of accuracy that it may be rarely necessary to specially revise them. In that case it would be possible to greatly curtail settlement expenditure.*

The Canal Colonies †—Military and horse breeding grants.

38. Colony officers have continued to be exercised with the discharge of the balance of the commitments already undertaken by the Punjab Government in respect of the distribution of the reward grants promised to Indian soldiers. About half of the area of 30,000 acres required to complete the scheme has been provided by the Government of India surrendering land which had been reserved to cavalry regiments for horse-breeding purposes, and it is hoped that the remaining area will be obtained from grazing grounds and *rakhs* in the various colonies. Horse-breeding on the Lower Jhelum Canal continues to provide difficulties. Though more mares have been covered yet less foals have been born. But the definite refusal of the Government of India to release the occupants from these conditions will have a good effect in removing the uncertainty which allowed matters to drift for so long. The proposal to pay rewards to good horse-breeders from the fines imposed on those who do not comply with conditions has been sanctioned by Government and should provide a stimulus to the zealous.

Other allotment of land.

39. Temporary cultivation is the curse of the Canal Colonies. It is a potential source of great profit to subordinates, and offers temptations to them which it is difficult to resist. Its popularity is due to the low rates charged for *malikana*, *i.e.*, the additional rent charge taken by Government from cultivators who have not acquired proprietary rights. Good land will easily sell for Rs. 400 per acre, and offers of a rent of Rs. 30 per acre matured inclusive of land revenue but exclusive

* See 1921-22, Report I, 260.
† See 1921-22, Report, I, 225, foll. II, 15.

of water rates have recently been received for land on the Upper Jhelum Canal. The peasant grantees in the later colonies are required to pay Rs. 100 per acre to obtain proprietary rights. There is, therefore, no justification for a lower *malikana* charge than Rs. 6 per acre matured on permanent grants, and still higher rates can fairly be charged for temporary cultivation. In the Lower Jhelum Canal Colony land was taken on this plea with no intention of cultivating it. The lessees merely turned on to their permanent grants the water sanctioned by the Irrigation Department for this extra area. Special provisions have had to be made to prevent this abuse in the future. As far as possible, however, steps are being taken to dispose of all inferior land. In this respect full attention is paid to the claims of the indigenous inhabitants, known as Janglis, who are quite good cultivators of bad land and are accustomed to a lower standard of living than the average Central Punjabi. They are, therefore, able to make a living on land that Central Punjabis would not look at, and the experiment of settling them on inferior lands shows every prospect of being successful.

Development of colony towns and villages.

40. The finances of colony towns have continued to receive attention from Government. In the later colonies the towns had received a guarantee of grants-in-aid for development purposes up to a total of half the proceeds of the sale of sites for five years subject to a maximum limit. A further guarantee was proposed of a quarter of the subsequent proceeds of sales of Government waste in the old colony towns and a half of the proceeds in the case of towns established in purchased areas. Government, however, was unwilling to involve itself in so definite an obligation. It has, however, agreed that applications for grants out of the sale-proceeds after the expiry of the original guarantee shall be considered on their merits. In the later colonies the building of new villages continues. The superior construction and cleanliness of the military villages are noteworthy. The administration of village sites is a special and particularly difficult part of colony work. Close control by Government is necessitated by the fact that all unallotted land is the property of the State. In non-colony villages there is no separate record-of-rights of village sites. But in colony villages such a record is main-

tained and kept up to date under the mutation procedure. Such a record has only recently been completed in the Lower Jhelum Colony, but is in existence already elsewhere or is under preparation for new estates. An experiment entrusting the management of village sites to a Village Committee was introduced in the Lower Jhelum Colony with the object of relieving the District staff. But it proved unsatisfactory and had to be abandoned.

Lack of roads in the Colonies

41. For large agricultural exporting areas, such as the Canal Colonies, the problem of communications is vital. The main railway artery connects each colony with the outer world, but internal communications by road are still most inadequate. Through communication by road is almost non-existent, and the disconnected *pakka* roads leading to railway stations are generally in very bad repair. Carriage of grain to the railways renders traffic on these roads particularly heavy, and this necessitates considerable expenditure if they are to be kept in good order. As in the case of Canada and United States road communication in the colonies suffers from the fact that railways have been built before the road system has been developed. In such cases there is always a tendency to neglect this important branch of communication.

Wards Estates: satisfactory financial position.

42. The Estates under the superintendence of the Court of Wards* shared in the agricultural prosperity of the year 1921-22 and their total annual income rose by three lakhs to Rs. 25¾ lakhs. The increase would have been greater but for the slump in the price of grain, as a result of which large stocks of *rabi* produce were retained unsold. There was, however, no corresponding increase in expenditure—in fact, there was a shrinkage of over two lakhs to Rs. 22⅓ lakhs. The decrease of a lakh in ordinary expenditure was due to a more normal personal expenditure on the part of one of the wards after return from England. The similar decrease in capital expenditure is ascribed to a natural caution on the part of Managers to propose additional expenditure at a time of falling prices of agricultural produce. Thus only Rs. 21,000 was spent on purchase of land and houses against a lakh in the previous year and nothing

*See 1921-22 Report, I, 272.

at all on purchase of Government securities as compared with a lakh and a quarter before. The result was that the Treasury cash balance rose by three lakhs to Rs. 11⅓ lakhs. This large balance, together with the proceeds of the unsold grain stocks valued at Rs. 4¼ lakhs and the equally good income expected for the current year, presents an opportunity for strengthening the permanent resources of the Estates.

Administration of the Estates.

43. Satisfactory progress was made in the ordinary administration of the Estates. Reduction of debt went on according to plan. Particular attention was paid to permanent improvements on which a larger sum was spent than in the previous year. The relations with tenants continued to be amicable. There was a small increase in the total arrears of recoverable rent due to the reluctance of the tenants of lessees to sell their grain, but no real difficulty is anticipated in their eventual recovery. On the other hand, the prevalence of *batai** rents enabled the tenants to share in the prosperity of the Estates. Advanced agricultural methods were as usual fostered on the great Estates. In one Estate Co-operative Societies were encouraged, and a Supply Stores, which supplies the agriculturists with ordinary articles of consumption at reasonable prices, and is backed by an interest-free loan of Rs. 5,000 from the Estate, made a promising start and appears to fulfil a real need. The education and training of the Wards, which is as much the object of the Court as the administration of their Estates, was sedulously prosecuted. Seventeen wards and their relatives were at the Aitchison College, for the sons of Punjab Chiefs, one at the Lyallpur Agricultural College,† three at Queen Marry's College, a preparatory school for boys of good family, and nineteen at local schools. As many of the older wards as is possible are gradually associated with the management of their Estates, and one has been given the powers of a Deputy Commissioner under the Court of Wards Act as a stepping stone to full control of his property.

Agricultural loans.

44. Loans for land improvement continued to be granted somewhat sparsely. In the year 1921-22 only Rs. 4 lakhs were distributed, mainly for the construction of wells for irrigation pur-

* See 1921-22 Report, I, 219, 545.
† See 1921-22 Report, I, 522.

poses. But the general tendency in the Province is to rely for such assistance less upon State aid and more upon Co-operative Societies and private finance. Loans for temporary agricultural purposes only amounted to Rs. 20 lakhs, of which Hissar took Rs. 3½ lakhs and Gurgaon nearly Rs. 3 lakhs. Such assistance is confined to districts of this type, where the people are thoroughly familiarized with this kind of relief. As a rule, these loans are faithfully devoted to the purpose for which they are granted and punctually repaid with interest. There is no better way of helping the people than by the grant of these loans provided that care is taken that the loans do not become gifts. That way pauperisation lies.

Rural indebtedness

45. The mortgage debt of the Province amounts to 37 crores of rupees and comes to nearly Rs. 127 per cultivated acre, the total cultivated area mortgaged being 29 lakhs acres. The average land revenue of the Province is slightly under Re. 1-8-0 per acre cultivated so that the mortgage debt per cultivated acre is equal to 85 years' purchase of the land revenue. It is impossible to arrive at any accurate generalisation from the existence or non-existence of mortgage. In an agricultural community where property is fluid and improvements are in progress, a high mortgage figure may indicate the alertness, industry, and business capacity of the farmers. Where communications are bad and methods of farming mediæval, a similarly high figure may indicate the exhaustion of the peasantry. Instances of each of these two types of community are to be found in the Punjab. But even in cases, such as the Lyallpur district, where the mortgage debt does not press heavily on the agricultural population, it is extremely doubtful whether it is contracted for productive purposes and is not merely a form of extravagance indulged in by wealthy landowners. The average price of cultivated land has risen from Rs. 345 per acre to Rs. 385, the highest figure on record. This continuous rise is due partly to the fact that agricultural produce commands, or at least during the year 1921-22 commanded, very high prices ; partly to the markedly increasing land hunger among the representatives of that class of society which in times past was content with trade, and the profits therefrom, and not a little to the restrictions of the Punjab Alienation of Land

Act* which have greatly diminished the area available for sale to the general public.

Waterlogging the Drainage Board.

46. The Drainage Board† did useful work during the year 1921-22 and is now devoting its attention to problems connected with the security of the Gurgaon district and the prevention of waterlogging in the areas irrigated by the large canals to the west of the Province. Much of the work involved is of a highly scientific character, and the Board has therefore sent a student to go through a technical course of training at the Lawes Agricultural Trust, Harpenden (England). This young man is reported to be making good use of his stay in England, and the training he is now receiving should be of value to the Province in the future. The problem of waterlogging is one which is becoming increasingly important because of the recent great extension in the area affected. The upper portions of the Upper and Lower Chenab Canals pass through low-lying areas, which have become permanently waterlogged. By the widening and deepening of old drainage channels and the opening of new ones further damage has been prevented in the Hafizabad and Wazirabad tahsils of the Gujranwala district, and some spoiled land has again been brought under cultivation. In the Sialkot district, however, there has been less success, and it is stated that the drains were not of sufficient depth and are consequently of doubtful utility. In the Shahpur district waterlogging continues in some villages in the Bhalwal tahsil, and is being dealt with by the Canal Department, which is arranging to drain off the water of the affected area into the Budhi Nala drainage channel.

Hill deforestation and its consequences.

47. In the Ambala Division the rapid deforestation of the hills is bringing problems of its own. With the destruction of the forest the soil is eroded and the water precipitated by the rains in the hills instead of being stored in the sub-soil is rapidly washed away in destructive torrents. The plains below suffer alternatively from floods and drought. Such is the cause of the unhealthiness of the notorious Naili tract of the Guhla sub-tahsil in the Karnal district. Population is diminishing and agriculture is deteriorating to an alarming extent for

* See 1921-22 Report, I, 239.
† See 1921-22 Report, I, 204.

want of men and resources. Consequently cultivation is decreasing, though grazing is abundant and the zamindars chiefly rear cattle which are, however, more distinguished for quantity than quality. People are generally poor, and the number of the *kamins* (village menials) is diminishing owing to disease and emigration. The Naili and Chhachora tracts of the Thanesar tahsil suffer in the same way. Being the breeding grounds of mosquitoes they are saturated with malaria. Many villages are waterlogged, while others suffer from shortage of water. A well organised scheme of irrigation and drainage seems indicated, and the regulation of the Markanda torrent seems also a necessity. A commencement has been made. Canalization of the Sarsuti has been undertaken in various places. The root of the evil, however, lies farther back in the deforestation and denudation of the Siwaliks higher up. Until this is stopped the land of Kurukshetra can never be restored to its ancient prosperity. Similar causes have led to similar results in the Nuh tahsil of the Gurgaon district, where to the deforestation of the hills must be added the damage caused by the neglect of the *bands*,* which form such a prominent feature in the agriculture of the district. A beginning has, however, been made towards tackling the problem by the opening of a drainage sub-division under the Drainage Engineer. Money is urgently wanted for re-afforestation as soon as schemes can be drawn up for the relief of the flooded area and the development of the *bands*. In the Ambala district the work of reclamation of deforested areas is proceeding slowly.† Over 40,000 trenches and dams were constructed and planted with *kikar* and *shisham* and in some places with *kikar* and *babar*. Ample rains in September compensated for the drought of July and August 1922, and germination was satisfactory throughout, though some of the dams were washed away. A portion of the area reclaimed was fenced with thorn bushes and produced a useful crop of grass.

Other causes of deterioration.

48. Another area which has deteriorated with astonishing rapidity is the *khadir*, or low-lying tract, in the Ballabgarh and Palwal tahsils of the Gurgaon district. The causes of this deterioration are not known for certain. A preliminary report is being drawn up by the District autho-

* See 1921-22 Report, I, 300. II, 99.
† See 1921-22 Report, I, 261.

rities with a view to obtaining orders for the revision of the assessment in the *dhari* circle of Nuh, as it is represented that the decline in prosperity is so great that the assessment is now far too heavy. As usual the action of the great rivers of the Punjab accounts for some deterioration on their banks. Erosion has taken place on the eastern bank of the Indus in the Mianwali tahsil of the Mianwali district, while continued floods caused some deterioration in the riverain area of the Bhakkar tahsil. In the Montgomery district, on the other hand, the damage has been caused by the dearth of floods from the Sutlej and Ravi rivers. Land has gone out of cultivation, and the villages in the riverain tract present a deserted appearance. In some places the land has become overgrown with the thorny *pohli** weeds, which affect the yield of wheat a good deal. This last evil is, however, due as much to the sluggish habits of the zamindars as to the malevolence of Nature.

Condition of the agricultural population: rise in labourer's wages.

49. The condition of the agricultural population was generally good, though there was a serious outbreak of relapsing fever in the south-west of the Province—particularly in Muzaffargarh. Economically the condition of agricultural labourers is improving. The high wages offered in the Colony areas act as a magnet to draw labour from the surrounding districts, where in some cases landlords suffered from a dearth of necessary labour and had to reduce rents in consequence. The situation is particularly acute in districts such as Kangra, where bad communications prevent the development of a progressive system of agriculture, and whence therefore a large continued emigration is taking place to the Central Punjab. Similar causes are diminishing the population of the Gurgaon district, though in this case there is reason to believe that the diminution is due as much to the scanty supply of births caused by the unhealthiness of certain parts of the district as to the economic causes producing emigration. The Hindu money-lender has in certain areas restricted credit owing to the fall in prices and has done his best to recover his loans through the Civil Courts—a procedure which renders the situation of the zamindar still more difficult.

* *Carthamus oxyacantha*, a near relation of the carthamus which yields the saffron dye.

CHAPTER IV.

LOCAL SELF-GOVERNMENT.

While even the peasant boasts these rights to scan,
And learns to venerate himself as man.

GOLDSMITH—Traveller, 338.

The Reforms and Local Self-Government.

50. Even before the introduction of the Reforms Scheme the Punjab Government had taken steps towards a substantial reform in Local Self-Government. With the introduction of the Reforms the Department of Local Self-Government became a transferred department under the control of the Minister for Education. Acts were passed increasing the powers and independence of District Boards and Municipal Committees. By the Village Panchayat Act* of 1922 it is hoped to restore to a large extent the traditional form of village communal self-government. The official and nominated element has been greatly curtailed on all local bodies. Tahsildars are no longer *ex-officio* members of District Boards ; and Municipalities have been encouraged to elect non-official Presidents and Vice-Presidents. The District Board franchise has been broadened and made uniform all over the Province. Nominations to local bodies, now as before, are made chiefly with the object of securing the services of useful workers who are unable or unwilling to be returned by the election of their fellow citizens. Where communal representation prevails, care is taken not to disturb the balance of elected seats apportioned to the various communities ; in other cases nomination is utilized to secure the representation of minorities who might otherwise remain unrepresented.

Reviving the Village Community.

51. Perhaps the most interesting though still the least important form of Local Self-Government is to be found in the village. For in India has been preserved better than anywhere else in the world the most ancient self-governing unit, in the Village Community ;† and of all Indian Provinces the Punjab preserves this organic growth in its most vigorous form. For some time the feeling has been growing that unless the Village Com-

*See 1921-22 Report, I, 158

†See 1921-22 Report, I, 156-158.

munity, as represented by its *panchayat*, were given some legal form, there was a danger that an organic growth, which has called forth the eulogies of philosophers and historians, might wither away. The *Panchayat* Act of 1912 made an attempt to give civil powers to so-called *panchayats*, which were really only arbitration committees. But these powers were limited to suits where both parties agreed to take their cases to *panchayats*, and were practically ineffective. More and more the opinion grew that the extensive litigation which prevails in the Province is not only a moral evil but is also a source of great economic loss and a frequent origin of serious crime. In order to avert this, 148 Arbitration Societies were founded by the Co-operative Department, under which disputes could be settled by arbitration without the intervention of a Court. The success which was achieved attracted attention in several provinces and even in journals published in England. These Societies were, however, closed down in view of the passing of the Village Panchayat Act of 1921. This Act aims at providing bodies with powers which will enable them to settle petty disputes and take measures for the sanitation of villages. The Act places on a modern legal basis the very old institution of the *panchayat* which in one form or another still exists in many parts of the Province.

Reconstruction of District Boards.

52. But it is mainly in the local bodies to which the affairs of Municipalities and Districts are entrusted that the new principles underlying the Reforms have been introduced. The system of elections has been introduced in 11 Districts Boards* whose members were formerly purely nominated, in the remaining 17 the elected element has been increased, and in all the official element has been reduced. The franchise has been made uniform throughout and placed on a more logical basis. This reconstruction has undoubtedly increased public interest in the activities of the Boards. In districts such as Kangra, where the rural classes are non-vocal and where public opinion was previously voiced by the Tahsildars, the absence of these officials is reported to have removed a valuable contribution to District Boards' discussions. In the more advanced districts, however, the

*See 1921-22 Report, I, 159-61.

detachment from an official control though giving rise to administrative difficulties will have the advantage of necessitating a keener personal interest in the affairs of District Boards on the part of members. Meanwhile the work of sub-committees has developed. Generally such sub-committees are elected to deal with specific branches of the administration, but the suggestion has been made that more interest in their work would be aroused if they dealt with all branches of work for some portion of the district such as a *tahsil*. The self-sacrifice of the members of the Gurgaon District Board, who in view of that Board's financial difficulties voluntarily surrendered their claim to travelling allowance gives an example of public spirit from which other bodies might well profit. In spite of some representations by minorities it has been decided for the present not to introduce communal representation in any District Board. Inter-communal friction like other undesirable activities is much less rife in villages than in towns.

District Board Finance: expenditure encouraged by lavish Government Grants.

53. These reformed bodies, however, cannot exercise their beneficent influence properly unless they are financially sound. Higher prices have involved increased expenditure, but income has remained relatively inelastic. Moreover District Boards have undertaken schemes of expansion in Education, Medical Relief, and in a few cases Communications without any consideration as to how the recurring expenditure involved could be met. They were encouraged by grants from Government for capital expenditure on schools, hospitals or roads to imagine that some assistance would be forthcoming if they got into difficulties about recurring expenditure. Moreover as grants were generally made in proportion to the Board's own expenditure, temptation was afforded to extravagance. Economy was advocated by no Department, was hardly understood by the members, and was left to the charge of the President, who as Deputy Commissioner had little time to spare for District Board finance from his other multifarious duties. The different services bid against each other in their anxiety to induce expenditure. Education bid highest and got the lion's share ; next came Medical Relief, while Communications were left with what remained over.

Necessity of restricting Provincial grants

54. As a result of this policy, while the income of the Boards since 1912 from all sources has doubled, the grants from Government have trebled. Since 1902 the income has quadrupled, and the grants are 27 times larger than they were. These figures are doubtless open to certain explanations and modifications, but the fact remains that local finance has become more and more dependent on provincial grants. The local rate which represented two-thirds of the income twenty years ago, now represents one-third only. This is a state of things which in itself is undesirable and it is the more so, as it is impossible for the Provincial Government to afford even what it gives at present. It is itself dependent for its own maintenance on overdrafts from the Imperial Government, and however much it may wish to encourage increased activity in local bodies, it has no funds at its disposal, with which it could help to finance them. In 1921-22 the financial position of District Boards reached its nadir, but in 1922-23 by increased taxation and diminished expenditure on essential services, as Communications and Medical Relief, income has just managed to balance expenditure*

New sources of taxation: the *Haisiyat* tax.

55. The *Haisiyat* or profession taxes† imposed on those who do not pay Land Revenue are beginning to prove a valuable source of income to some District Boards which in some districts realise as much as half a lakh, by this tax. Though unpopular with the classes assessed they are welcomed by the rural community as removing the injustice by which those who benefited most from District Board expenditure used to contribute nothing towards it. But great difficulties are felt in the equitable assessment and collection of this tax by unofficial agencies.

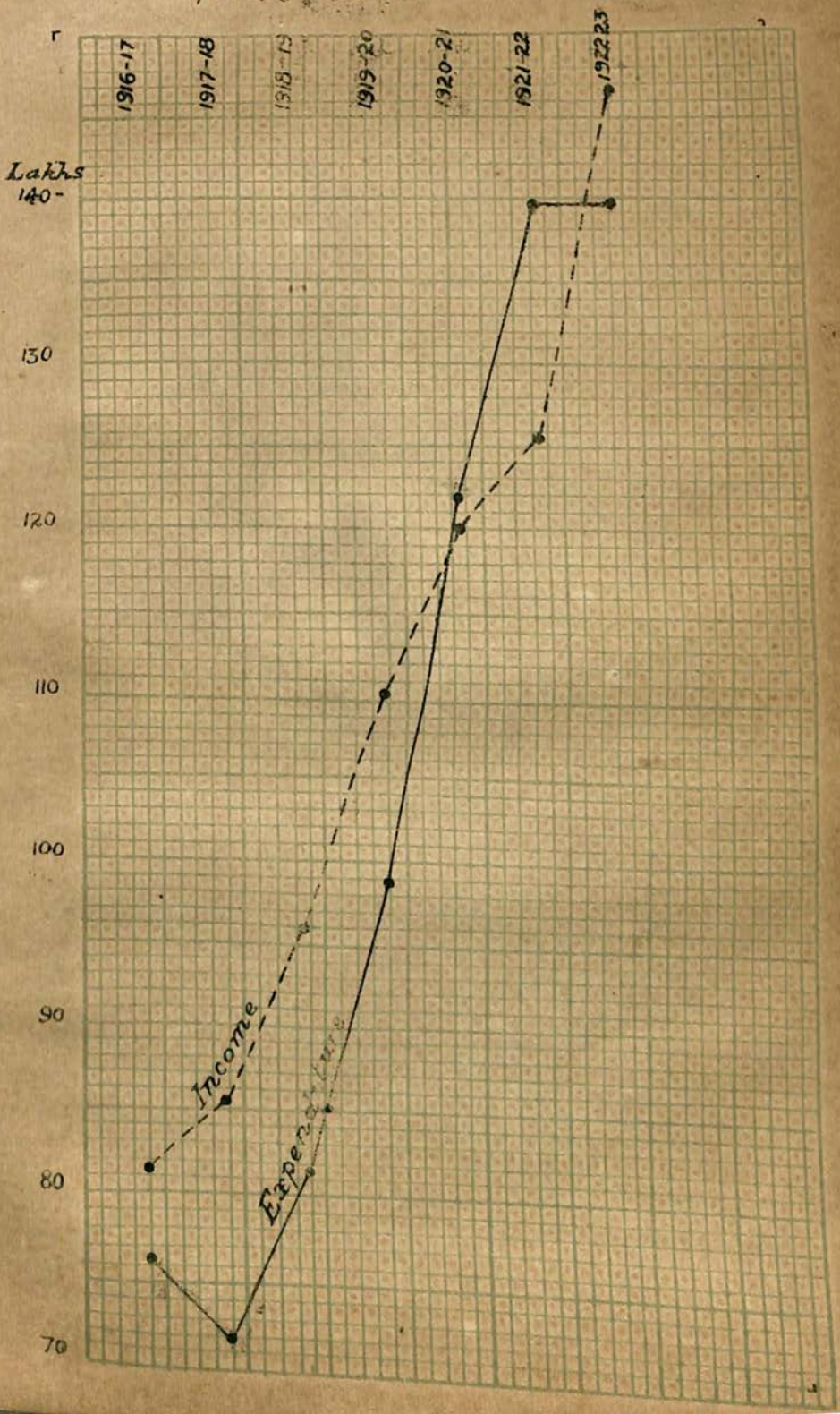
District Boards and Education.

56. The growing importance attached to Education is evidenced by the increased percentage of expenditure on it, and it is in this connection that the cry for increased Government grants and general expansion rings loudest. It is here, therefore, that the possibilities of economy and the necessities of advancement need most careful balancing. In all districts there has been an increase in the number of students, and the

*See graph.
†See 1921-22 Report, II, 221.

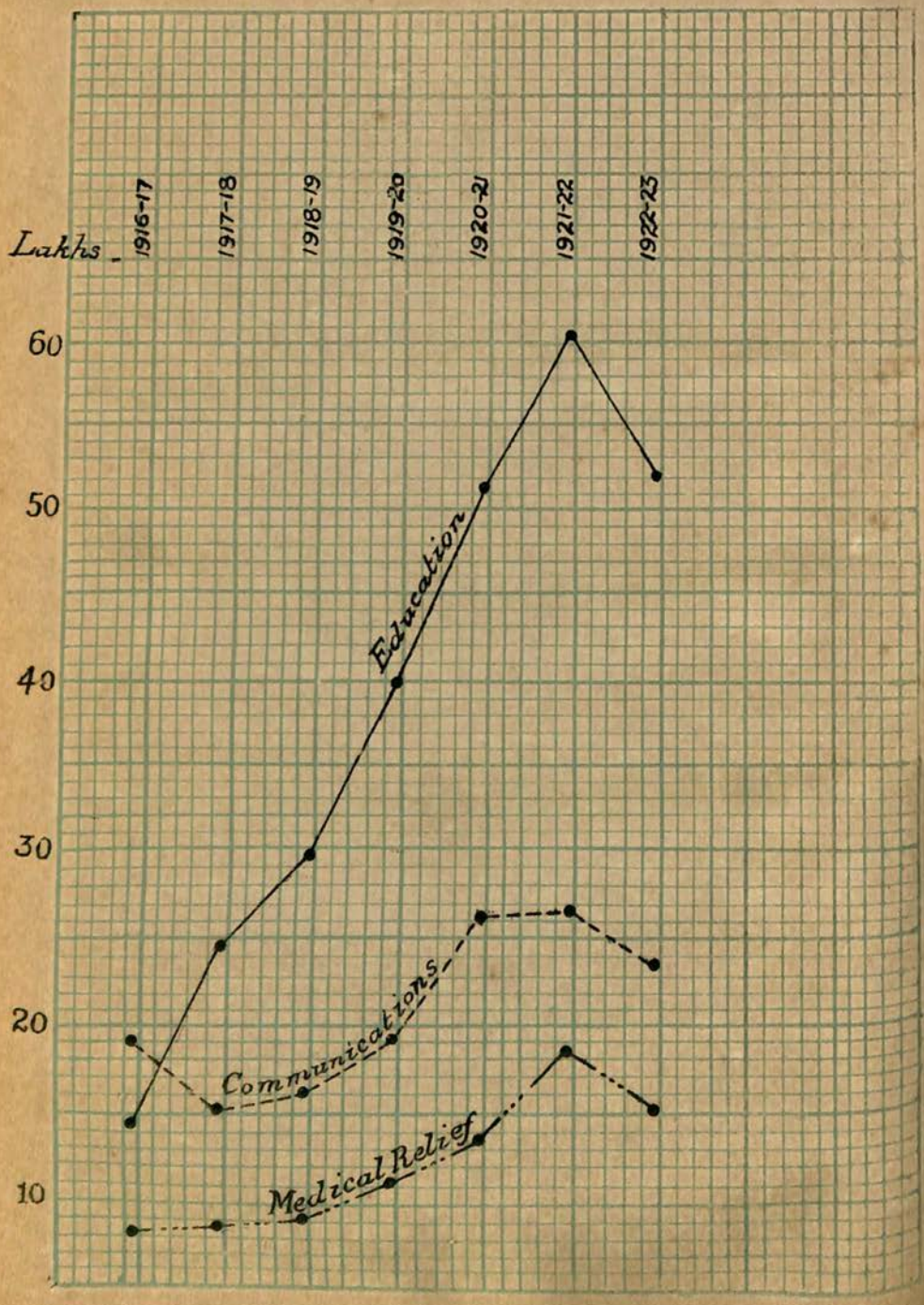
GROSS INCOME AND EXPENDITURE OF DISTRICT BOARDS.

Opening balances are excluded



MAINHEADS OF DISTRICT BOARD EXPENDITURE

Civil Works expenditure is shown under these heads



liberality of Government has provided a proportionate increase in the teaching staff. All this means an increased expenditure, which the financial position of the District Boards can ill afford. That there is a way out of the difficulty is shewn by Kulu, a poor sub-division, where Rs. 10,000 was raised by public subscription towards a high school, by Jhelum, where a single donation of Rs. 25,000 saved schools from being closed down, and by districts like Gurgaon and Montgomery, where the public have similarly risen to the occasion ...

District Boards and Public Health.

57. Under the influence of modern scientific thought public opinion is gradually realizing that a high standard of public health can be better secured by spending money on the prevention of disease than on its cure. Preventive work though not yet universally popular is often appreciated, especially where the principles of public health have been popularised by village propaganda with the magic lantern.

District Boards and Communications.

58. Expenditure on Communications has this year been more than ever restricted. Despite railways, telegraphs, motor-transport and other expedients undreamt of in older days, difficulties of communications still persist as a formidable obstacle to the progress of modern industry. Unceasing effort and expenditure upon a scale hitherto impossible will be necessary if the communications of the Punjab, whether by road or by rail, are to be adequate to the requirements of the country. The utilization of mechanical transport for military and other purposes has continued to develop. But the use of mechanical transport depends upon increasing improvements in road communication. Moreover the economic loss caused by the inaccessibility of many agricultural districts in the rainy season is considerable; and this cannot be remedied until the system of trunk roads is further developed. This matter is under the consideration of the Communications Board. The present unsatisfactory condition of this vital necessity for the welfare of the country is to a certain extent due to the tendency of local bodies to spend a disproportionate share of their resources on other matters rather than upon Communications. There is a danger that unless suitable measures are taken in time the highway system of the Punjab so far from extending in accordance with the needs

of the country and the increase of motor transport, will in the near future fall into serious disrepair.

Municipal Reconstruction.

59. Even before the Reforms in the great majority of Municipalities* some of the Municipal Commissioners were elected. In the larger Municipalities representation was in general by wards or classes of the community, or both. The constitution of each Municipality was dealt with on its own merits and was framed with regard to the peculiar circumstances of that locality. It was only on special representation that changes were made at all. But with the Reforms every thing has been systematized. Formulæ have been adopted regulating the total number of members in each Committee and the distribution of the elected seats on Municipalities amongst the various communities. The most difficult problem was to discover a formula which should graft the democratic principle of the Reforms on the concrete facts of municipal administration in the Punjab. The formula adopted was that "the elected seats on municipal committees should be distributed among the communities in proportion to their population as modified arithmetically by their voting strength."† These arrangements caused a good deal of discontent amongst Hindus who under the previous system of distribution had a representation more than proportioned to their population and voting strength. The electoral system is also being introduced in practically all Notified Areas, which included places which were too large to be considered villages and yet hardly large enough to be called towns. These will in future become Small Towns and will also receive a more or less democratic constitution.

Municipal administration.

60. Communal friction has done much to prevent the efficient working of Municipal Committees. In the arena of local self-government, the non-cooperation party has not only failed to effect Hindu-Muhamadan unity, but has even directed its political fervour into communal channels, and non-official presidents are often opposed for purely communal reasons. Apart

*See 1921-22 Report, I, 162-63.

† In other words community percentages were taken by population and by voting strength, and elected seats on Municipal Committees were distributed among the communities in proportion to the arithmetic mean of the two percentages, *e.g.*, if Hindus constituted 20 % of the population and 40 % of the voting strength, they would be entitled to 30 % of the representation.

from communal bickerings, the administration of Municipalities is too hide-bound by routine and abstract theory. The important question of milk supply is neglected and the terrible condition of the roads in most municipalities is a striking witness to the indifference of the members to matters of practical importance. Encroachments are rife and are often due to the connivance of members. But in spite of these difficulties some Committees resent Government interference. This is perhaps a phase that will disappear when it is realised that in English and other democratic countries the popularization of the Central Government is usually followed by a stricter supervision of local self-government.

Municipal Finance.

61. While in 1921-22 the total expenditure of Committees exceeded the total income by Rs. 7¾ lakhs; in 1922-23, the total income exceeded the total expenditure by nearly the same amount. The improved position is due to increased receipts from octroi and terminal tax, consequent on removal of the boycott of foreign cloth, improved trade and improved supervision by the octroi staff. Generally speaking the Municipalities in which the terminal tax is in force are in a better financial position than those in which octroi is collected. Octroi by interference with trade tends to kill the source of its own life, while the system of refunds under which the octroi on imported goods which are re-exported is returned, offers obvious temptations to dishonesty.

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY

CHAPTE V.

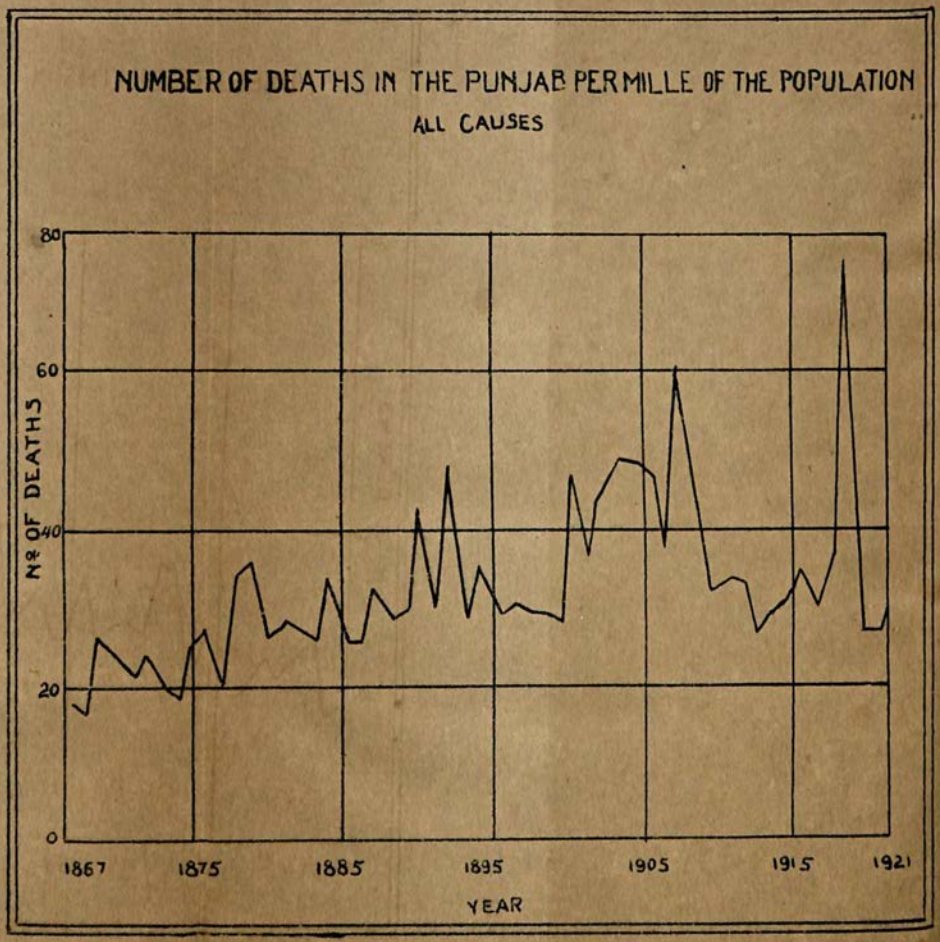
PUBLIC HEALTH.

While we spend large sums in trying to cure diseases, we are sadly behindhand in taking steps to prevent them.

LORD RIDDELL.

62. The year 1922 was an exceptionally healthy one in the Punjab. From the economic point of view conditions were favourable ; rainfall was timely ; harvests were, on the whole, good ; and the prices of food grains were lower than those prevailing in 1921. Thanks to these conditions, coupled with a fortuitous incidence of rainfall the Province was only lightly affected by malaria, its great scourge. Plague increased considerably, causing nearly 8,000 deaths in 1922 as against nearly 3,000 in 1921. Although, the outbreak was considerably less severe than that of 1919 when the number of deaths from plague approached 13,000, the increase in incidence and area affected is distinctly ominous. Cholera appeared only in a very mild form, and was responsible for only 128 deaths as against over 19,000 in the preceding year. The low mortality from cholera is the more remarkable in view of the fact that cases were reported from thirty-three centres in sixteen districts. Of these centres twenty-eight were infected, directly or indirectly, by cases imported from outside the Province. The remaining five outbreaks were undoubtedly of indigenous origin, and the Director of Public Health considers that it is now definitely proved that although infection usually starts from imported cases, the cholera carrier exists in the Punjab, and is capable of starting a purely indigenous focus of infection. The most dangerous outbreak of cholera which occurred during the year was among the pilgrims at the Sun-eclipse fair at Thanesar. The number of pilgrims present at the fair was estimated at half a million, but owing to the energy of the Public Health Department the outbreak was stamped out with a loss of only eight lives and without any subsequent dissemination of the disease. The statistics for the period 1867—1921, disclose the interesting fact that cholera causes a much greater proportionate mortality in towns than in villages, a fact which is in favour of the assumption that in urban areas the disease is spread by infection of the common water supply.

The year 1922 a healthy one.


NUMBER OF DEATHS IN THE PUNJAB PER MILLE OF THE POPULATION
ALL CAUSES
80
60
40
20
0
Nº OF DEATHS
1867
1875
1885
1895
1905
1915
1921
YEAR

The mortality from fevers was, as usual, high, though there was a great decrease in the number of deaths reported as against the preceding year. Relapsing fever appeared in several districts, and though not responsible for many deaths, has given rise to considerable apprehension. Measures are being taken for the early diagnosis and treatment of this disease. The number of deaths from smallpox fell from 4,575 in 1921 to 1,608 in the year under report. The figures for the years 1867—1921 disclose a general tendency towards a decrease in the mortality from smallpox, a result which can fairly be attributed to the preventive measures consistently applied to the disease by the Public Health Department.

Analysis of the death-rate : unsatisfactory conclusions.

63. During the year 1922 further advance was made in the analysis and interpretation of the statistics now available for the period 1867—1921. Investigations were carried out by the Public Health Department in collaboration with Mr. S. M. Jacob, Census Superintendent. The investigation of the general death-rate for the period 1867—1921* discloses a very unsatisfactory state of affairs. The general death rate, whether due to physiological causes or to a better reporting agency, rose, on the whole, from 1,867 to 1,890; since then it appears to be on the whole fairly stationary though there was a great mortality in 1908 and 1918. It must therefore be admitted that during the past 55 years medical endeavour has failed to favourably influence the death rate, for we have a high stationary death-rate subject to the most violent epidemic fluctuations. If the Punjab graph be compared with the corresponding graph for England and Wales the difference is as striking as it is instructive. From 1875 onwards the English curve shows a steady fall, the present death rate being almost a model one. The explanation of the difference between the two curves is easily arrived at. In 1875 England introduced the policy of State Organised Preventive Medicine which she has been steadily perfecting ever since, and until the introduction of the National Insurance Act, spent little in the way of money or effort on what is conventionally termed " Curative Medicine ". Money and effort were directed chiefly to Prevention, the existing model death rate being the result. The Punjab,

* See graph appended.

on the other hand, until 1919 never had a definite, clear-cut policy of State Organised Preventive Medicine. During the past 55 years money and effort have been directed mainly to Curative Medicine, the result being displayed in the graph.

Medical Relief.

64. Financial stringency prevented any marked extension in curative medical work during the year 1922. A period of consolidation succeeded to the rapid expansion of the last three years, during which over 100 new dispensaries were opened, making a total of over 600 hospitals and dispensaries from whom nearly 6 million patients received treatment during the year 1922. During the last five years the total expenditure on those hospitals and dispensaries, to which Government contributes, rose from Rs. 16 to 33 lakhs. The amount contributed by local bodies increased from about Rs. 12 to 22 lakhs in 1921 and 1922. The limit which local bodies are prepared to spend on medical relief has now been reached, and it is doubtful whether the five years' programme of dispensary expansion, which has been formally approved by most District Boards, can be carried out in practice. By means of Itinerating Dispensaries, it is however hoped to afford a more wide-spread relief at a cheaper cost in rural areas. Of the total expenditure on curative medicine Rs. 2·7 lakhs was devoted to the care of 846 lunatics in the Punjab Lunatic Asylum. It is interesting to note that nearly Rs. 17,000 of their expenditure was recovered from the goods manufactured by the lunatics themselves.

Vaccination.

65. At the cost of Rs. 2 to 2½ lakhs per annum about nine hundred thousand people in the Punjab are vaccinated in a year.* Assuming that vaccination protects the individual for seven years this affords protection against smallpox to nearly 1/3rd of the population of the Punjab. The spread of vaccination has checked the ravages, and consequently the fear, of smallpox and the last triennium has shown a diminution in the number of revaccinations though primary vaccination has increased in comparison with the previous triennium. Some opposition was experienced in the South-

*See 1921-22 Report I, 190,192 for the organisation employed for vaccination purposes.

Eastern districts on account of the non-co-operation movement, but by tactful propaganda the Medical Officers of Health generally succeeded in overcoming it. The demand for vaccine from the Punjab Vaccine Institute fell off at the close of the war but is now steady. A modification has been introduced into the original system of lymph cultivation by the introduction of a rabbit in the cow calf-buffalo calf cycle. This will result in a great increased yield of lymph by the stock vaccinifers.

CHAPTER VI.

EDUCATION.

A little learning is a dangerous thing ;
Drink deep, or taste not the Pierian spring,
There shallow drafts intoxicate the brain,
And drinking largely sobers us again.

POPE.—Essay on Criticism, ii, 15.

Educational consolidation.

66. The year 1922-23 has been, in the main, a time of harvest for the Education Department. The seed that was sown some years ago by the formulation of the five years programme for the expansion and improvement of vernacular education* has now grown to ripening. The main efforts of educational workers have therefore been devoted to the reaping of the harvest and to ensuring that the abundant crop shall not run to waste under the influence of financial stringency. The appended statement gives an abstract of the educational expansion of the last ten years :—

Number of Scholars (thousands).

	1911-12.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
PUBLIC INSTITUTIONS.								
Males.								
Arts and Professional Colleges.	3	5	6	6	6	6	6	6
High Schools	48	54	55	59	65	72	76	83
Middle Schools	46	57	57	57	1,00	1,18	1,33	1,65
Primary Schools	2,80	2,40	2,43	2,47	2,28	2,39	2,70	3,50
Special Schools	3	4	4	5	4	4	5	23
Total	2,80	3,66	3,65	3,74	4,03	4,39	4,90	6,27
Females.								
High Schools	2	3	3	3	3	3	3	3
Middle Schools ..	5	9	9	11	11	12	11	11
Primary Schools ..	29	42	42	43	45	46	48	51
Special Schools ..	1	1	1	1	1	1	1	1
Total	37	55	55	58	61	62	63	66
PRIVATE INSTITUTIONS.								
Males	47	42	37	34	42	43	50	58
Females	17	14	12	11	12	18	24	26
Total	64	56	49	45	54	56	74	84
GRAND TOTAL ...	3,81	4 77	4,69	4,77	5,18	5,57	6,27	7,77

* See 1921-22, Report, 430 foll.

It will be noticed that attention is now devoted mainly to the expansion of primary education.* This is also illustrated by the statement showing the number of scholars by religion.

Scholars by Religion (thousands).

	Muhammadans.	Hindus.	Sikhs.
1916-17	1,70	1,77	54
1921-22	2,42	2,12	76
1922-23	3,34	2,52	88

The rapid rise in the number of Muhammadan scholars is a satisfactory indication of the spread of primary education among the rural and poorer urban classes. A further discrimination between the rural and urban classes of the different communities would shew even more clearly how far practical effect has been given to the intention of spreading education among the rural classes under the five years programme.

Educational Finance.

67. One result of the Reforms and of the consequent financial stringency has been the devotion of greater attention to the important problem of educational finance. The financial stringency of to-day is ill-suited to the general desire for the expansion and improvement of education. A careful scrutiny of educational expenditure is therefore imperative. How far this is being done will be seen from the following statement :—

* The apparent fall in the number of those receiving primary education in 1919-20 concurrently with a large expansion in the corresponding number of middle schools is explained by the raising of many primary schools to the middle status at the time.

Expenditure (lakhs of rupees).

	1911-12.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.	1922-23.
PUBLIC INSTITUTIONS.								
Males.								
Arts and Professional Colleges.	8	11	12	12	13	16	18	20
High Schools ...	13	20	21	23	27	32	36	39
Middle Schools ...	5	10	10	11	16	22	26	28
Primary Schools ...	9	16	17	19	20	24	27	29
Special Schools ...	2	4	4	4	5	6	8	9
Total ...	37	61	64	69	81	1,00	1,15	1,25
Females.								
Colleges ...	...	...	...	...	...	...	...	1
High Schools ...	1	2	4	3	3	3	3	3
Middle Schools ...	1	2	2	3	3	3	4	3
Primary Schools ...	2	4	4	4	5	6	7	7
Special Schools	2	1	1	1	2	2	2	2
Total ...	6	9	11	11	13	14	16	16
Total direct expenditure ...	43	70	75	80	94	1,14	1,31	1,41
Direction and Inspection ..							9	9
Universities ...							3	6
Buildings, Scholarships and Miscellaneous.							47	64
Total indirect expenditure	26	39	40	44	48	70	59	79
GRAND TOTAL ...	69	1,09	1,15	1,24	1,42	1,84	1,90	2,20

The extent to which economy has been taken into consideration will be seen from the fact that the percentage increase in expenditure on primary schools is only a quarter of that of the increase in the number of scholars. The increase in expenditure this year mainly comes under the heading of buildings, due to the purchase of property on important central sites to the amount of nearly Rs. 10 lakhs from the Cathedral in Lahore and Church Missionary Society in Multan. The sources from which educational expenditure is met will be seen from the statement below :—

General summary of expenditure on Education, 1922-23.

	Percentage of expenditure from			
	Government funds.	Board funds.	Fees.	Other sources.
Direction and Inspection ...	84	16	..	...
Universities	17	..	79	4
Miscellaneous	55	13	11	21
Institutions for Males.				
Arts Colleges	38	...	41	21
Professional Colleges	83	..	16	1
High Schools	37	5	42	16
Middle Schools	40	25	25	10
Primary Schools	61	31	3	5
Special Schools	84	5	5	6
Institutions for Females.				
Arts Colleges	65	...	13	22
Professional Colleges	71	...	14	15
High Schools	49	7	31	14
Middle Schools	41	26	9	23
Primary Schools	89	45	1	15
Special Schools	62	2	7	29
Average ...	51	15	20	14

This shews that half the total Educational expenditure is provided by Government, about 20 per cent. from fees, and the rest is made up from District Board funds and other sources. The expenditure on the lower forms of education will always mainly fall on Government or local bodies, but with increasing financial stringency a larger proportion of income from fees in the higher forms of Education would seem to be indicated. Probably no other Government outside India contributes so large a proportion (38 per cent.) as the Government of the Punjab towards the maintenance of Arts Colleges

Collegate Education.

68. The time of University Professors has perforce to be devoted to the instruction of young men, who under a better system would be trained in other institutions elsewhere. This leaves them little leisure for that higher study and research in the Arts and Sciences, which have rendered the Universities of England and Scotland well-springs of culture for the whole world. In spite of these difficulties valuable research work is being done in Economics and History. But the real cure of the evil will only be found when Intermediate Colleges in the districts will relieve the University of its pedagogic work and leave it free for higher activities. Unfortunately the establishment of these colleges has had to be postponed hitherto owing to financial stringency. These and other problems may, however, be left to the wisdom of the newly formed Academic Council of the University, which should enable the leading teachers of the University and its colleges to discuss urgent matters of educational reform. It will be necessary to frame degree courses for the requirements of those who desire to enter public life and service. A well devised course comprising such subjects as English literature, modern history, political science, administration and economics (with special relation to Indian problems) might be of great value to the political and administrative development of the Province. Amongst the students a much healthier spirit now prevails. Political excitement has waned, and attention is being devoted to athletics and such work as that of the Coats Off Society of the Khalsa College which following tutorial example made much of the useless land belonging to the College ready for plough. By thus raising the dignity of manual occupations the gradu-

ate may be saved from that lassitude, which so often characterises him in after life. The work of standardisation of technical terms in Urdu and Punjabi is now nearly completed. Tentative lists of terms have been submitted to the scrutiny of linguistic experts. When finished they should render possible the issue of a series of translations of standard English works in science and literature. This should do much to introduce possibilities of wider culture to the minds of those who have only received vernacular education. Such translations are the more necessary in view of the dearth of indigenous books of real merit.

Secondary Education.

69. A valuable survey of secondary education was made during the year 1923. Every avenue of expenditure was scrutinized, buildings, staff, organisation, equipment, libraries, menials and contingencies revealing many directions in which retrenchment was not only possible but also necessary in order to prevent extravagance. As a result, while the number of scholars in 1922-23 increased by 19 per cent., as compared with the previous year, the cost of secondary education only increased by 8 per cent. The same principles of economy have also been insisted on in aided schools before grants-in-aid are awarded. Enquiries from other provinces have shewn that such grants have hitherto been made on a more liberal scale in the Punjab than most other provinces. The survey also brought to light several inequalities in the existing provision of facilities for secondary education in different parts of the Province. While the comparatively advanced and wealthy urban areas have a plethora of schools, the poorer and more backward rural areas are inadequately supplied. Thus the resources of Government have been consumed in the encouragement of the more fortunate to the exclusion of the really needy. In future the needs of the Province as a whole will be considered rather than those of the more vocal localities. Discipline is generally good in spite of the frequent transfers and removal of headmasters in aided schools. Athletic training is being broadened and is no longer confined to select teams of specialists. The Boy Scout movement is still in its infancy in the schools of the Province, but present indications shew that it will develop rapidly as trained Scout Masters become available. The troop at the Government High School, Simla, did yeoman service, last December, when the Grand Hotel was destroyed by fire, and one boy (as the headmaster reports) " at

considerable risk to himself, entered a room gutted with smoke and was the means of helping an English gentleman who was groping for a passage out of the room." Little progress has been made towards raising suitable primary schools to the lower middle grade owing to the failure of local bodies to undertake the additional financial responsibility owing to their attenuated resources.

Agricultural Education.

70. Public opinion is beginning to recognise that some training in agriculture is an essential concomitant of education in rural areas. In its method of agricultural training the Punjab takes the lead, it is based on the principle that an intensive training in agriculture is unsuited to young boys, and that what is really needed is a good general training enriched, in suitable places, by some practical training in agriculture. This practical training is given on small school farms by a Senior Vernacular teacher who has undergone a year's course in agriculture at Lyallpur. The practical nature of the training given may be judged from the fact that these Agricultural Farms are now nearly all self-supporting and that the new methods taught and implements used in them have begun to appeal to the zamindars of the neighbourhood.

Primary education in rural areas.

71. Apart from special training in agriculture the whole primary school curriculum in rural districts is undergoing revision. In a country where agriculture is not only the principal but practically the sole industry the curriculum for rural schools should be most definitely and uncompromisingly agricultural. Let who will specialise in law or literature, but the ploughman's son should be educated on agricultural and not on literary lines. No longer will rural education be mainly directed to training boys for Government appointments. In the past it was the common practice in village schools to detain little boys for long hours and to give them long home tasks with the result that they had no time in which to help their parents in the fields. But now school hours are being adapted to local requirements; educationally backward districts are being brought into line and the startling contrast between the omniscient culture of the towns and the degraded ignorance of the rural areas is rapidly disappearing.

Economy and efficiency in Primary Education.

72. The combination of efficiency with economy is especially conspicuous in the case of primary education. New types of buildings have been designed, which are at once cheap and suitable. In some cases the villagers themselves have constructed suitable school buildings, wholly or partly at their own expense. Steps are moreover being taken to prevent the dissemination of a smattering of education amongst a large number of scholars, and to secure that those who enter schools acquire the *minimum* knowledge that will be of practical value. Previously a large number of boys never got beyond the first of the four classes of the primary standard. Both Inspectors and teachers are now learning that a mere increase in numbers is of little value unless it is accompanied by a satisfactory outturn of literates from the fourth class. For this purpose the single-teacher school, where one harassed headmaster endeavoured to impart different stages of education to a small number of boys, is being eliminated ; the aim being now to provide fewer schools with a large number of boys and a larger staff in each. For this purpose Government has declared that the provision of an adequate staff of teachers should be the first charge against the educational resources of local bodies. The time has now come to cry a halt to the multiplication of uneconomically small schools. These not only eat up the money that is so sorely needed by those schools for which there is a clear demand and which, with only a little assistance, could bring forth abundant fruit ; but also, by their inefficient teaching, stiffen the backs of those who declare that children learn nothing at school and that therefore Education is of no value. The gradual introduction of compulsion is the most effective and practical means of ensuring that the time and money spent on Education are spent for the best advantage. For this reason, any rapid or wholesale introduction of compulsion would be a mistake. By far the better policy is the gradual and systematic introduction of compulsion in small and well-selected school areas.

Adult education.

73. The problem of village education is also being approached from another side, by the provision of schools for adults. The enthusiasm for self-help generated by the Co-operative Department is mainly responsible for this movement, which should prove a death blow to the suspicion among the cultivating

classes that literacy is incompatible with the vocation of agriculture. In 1923 no less than 18,000 adults were enrolled in these schools. The cost was very little as normal and other schools were utilised by them after school hours. The education of adults involves interesting possibilities. When once the rudimentary ground-work has been covered, the teaching should be largely individual. General principles can be more widely inculcated, and it is to be hoped that with the installation of village libraries and suitable pamphlets concerning matters of common agricultural interest, vernacular education alone may suffice to raise the rural classes to a high standard of culture. Special classes are being held in some places for the training of demobilised soldiers ; and the recruitment of as many agriculturists as possible in the normal schools where teachers are trained should result in a teaching staff more sympathetic to agricultural needs.

Training of teachers.

74. Normal school buildings are now being utilised up to their full capacity, thus avoiding duplication of equipment ; and training class unit of forty pupils has been standardised. By these means it is now possible to train a large number of teachers at a very moderate expense. Inspection methods are being humanised by informal discussions of educational problems with teachers after school hours. In every way the Education Department is becoming an instrument for the moral and intellectual up-lift of the Province at the least possible expenditure consistent with efficiency.

The Lahore Museum.

75. At an annual cost of about Rs. 15,000 the Lahore Museum* plays a valuable part in the dissemination of culture. It shares with the Zoological Gardens the premier place in the affections of Lahore sightseers, and the number of visitors to it during the year 1922-23 was again over half a million. The zenana days were crowded as usual. The experiment of charging a four annas entrance fee from non-student visitors on the weekly students' day was tried in the latter half of the year. It produced the satisfactory sum of Rs. 831, and no inconvenience was reported to have been caused to the students. It was unfortunate that the financial position again restricted expenditure on the purchase and preservation of exhibits, and that not more than Rs. 2,881 was available for this purpose. It was, however, sufficient for

*See 1921 22 Report, I, 477, 478.

the purchase of some interesting Tibetan curiosities and old Indian and Persian pictures, together with three silver Kashmir necklaces and representative specimens of Burmese lacquer and basket work. A specially valuable acquisition was a collection of notes and memoranda left by the famous numismatist, Mr. Rodgers, whose fine collection of coins already adorns the Museum. Mr. A. K. Muirhead of the North-Western Railway presented a brick from Ur of the Chaldees with an Assyrian inscription dating from B. C. 2220, several centuries before Abraham left that city on his long tour. But the Lahore Museum fulfils the functions of the Royal Academy as well as those of the British Museum. The Punjab Fine Art Society has been founded to stimulate artistic production and criticism. It held its inaugural exhibition in the large empty gallery of the Lahore Museum in February 1923. Sales were good, the standard of artistic merit was high and the exhibits of Indian Artists were prominent both in quantity and quality.

CHAPTER VII.

FINANCE.

It is a very good world to live in,
To lend, or to spend, or to give in ;
But to beg or to borrow, or to get a man's own ;
It is the very worst world that ever was known.

EARL OF ROCHESTER.

Finance under the Reforms. Abolition of Divided Heads.

76. The importance of the financial side of administration is often apt to be overlooked. Finance is indeed but a means to an end—good Government. But it is a most essential means. Financial independence is one of the first privileges of self-government, and the Punjab, like other Indian provinces, is now facing the responsibilities which accompany all privileges. This is the final outcome of a gradual process by which the extreme financial centralisation which the Government of India inherited from the commercial methods of the East India Company has disappeared. All revenues originally went into the coffers of the Central Government, and all but the most trifling expenditure had to be defrayed under its orders. From that primitive condition evolved the system of ' divided heads ' which attempted to secure for the Government of India an adequate revenue from sources of income under Provincial control without depriving the provinces of the stimulus to careful management which a share in the proceeds would afford. With the advent of the Reform Scheme all heads which had previously been divided between the Provincial and Central Governments were allocated to the former with the exception of Income Tax which was credited to the Imperial Revenues.*

The Provincial contribution.

77. Under this rearrangement, however, the Government of India would lose heavily. It was therefore necessary to get contributions from the provinces ; and here the difficulties began. Finally it was arranged that the ultimate contributions from the provinces should be roughly in proportion to their wealth, and so while Bengal paid 19 per cent. of the total provincial contributions, the Punjab was only liable for 9 per cent. But in view of the difficulty to a Province like Bengal, of immediately adjusting her finances, this scale

*See 1921-22 Report, I, 112—122.

was only made an ultimate goal, the immediate charges being proportioned to the estimated relative burdens under the old system. Thus while the Punjab is now charged Rs. 175 lakhs, Bengal was only assessed at Rs. 69 lakhs and even this sum was remitted for three years.

Provinces saddled with expanding expenditure and stationary income.

78. These contributions are felt by the provinces to be a burden, and feeling on the subject is not likely to diminish. Military expenditure, which is the chief Imperial charge, is not likely to expand considerably, while the provinces will require continually increasing funds for the development of Education, Communications, Public Health, Agriculture and other beneficent activities. *Per contra* two Imperial Receipts under Customs and Income Tax are capable of indefinite expansion, while Provincial Receipts such as Land Revenue and Excise, under a temperance policy, are inelastic. Thus the Government of India has an expanding revenue with a stationary expenditure and the Provinces the opposite. It was hoped that the revenues of the provinces, increased as a result of the financial settlement under the Reforms, would assist them in finding the money for large schemes of economic and social development. But this hope is not likely to be realized, unless some steps are taken to enable the provinces to participate in the increased income which the Government of India will appropriate from the increased wealth which will result from such development.

Results in the Punjab.

79. But whatever may be its effect on provinces containing large commercial centres, a predominantly agricultural province such as the Punjab is for the time being a gainer under the new system Other things being equal the Punjab would have launched the new regime with a cash balance of Rs. 140 lakhs in hand, and a net annual further gain of Rs. 59 lakhs.* Actually, however, it ended the first financial year after the introduction of the Reforms (1921-22) with a deficit of Rs. 205 lakhs, of which Rs. 140 lakhs were met from the balance and the remaining Rs. 65 lakhs from an advance from the Government of India. Briefly the reasons for this may be given as a heavy increase in expenditure due to the rise in prices combined with an inelastic revenue.

*See 1921-22 Report, I, 123.

80. The accompanying statements shew the income and expenditure for the years 1921-22 and 1922-23 during which the Reform Scheme has been working :—

Punjab Government Receipts (Rupees in lakhs).

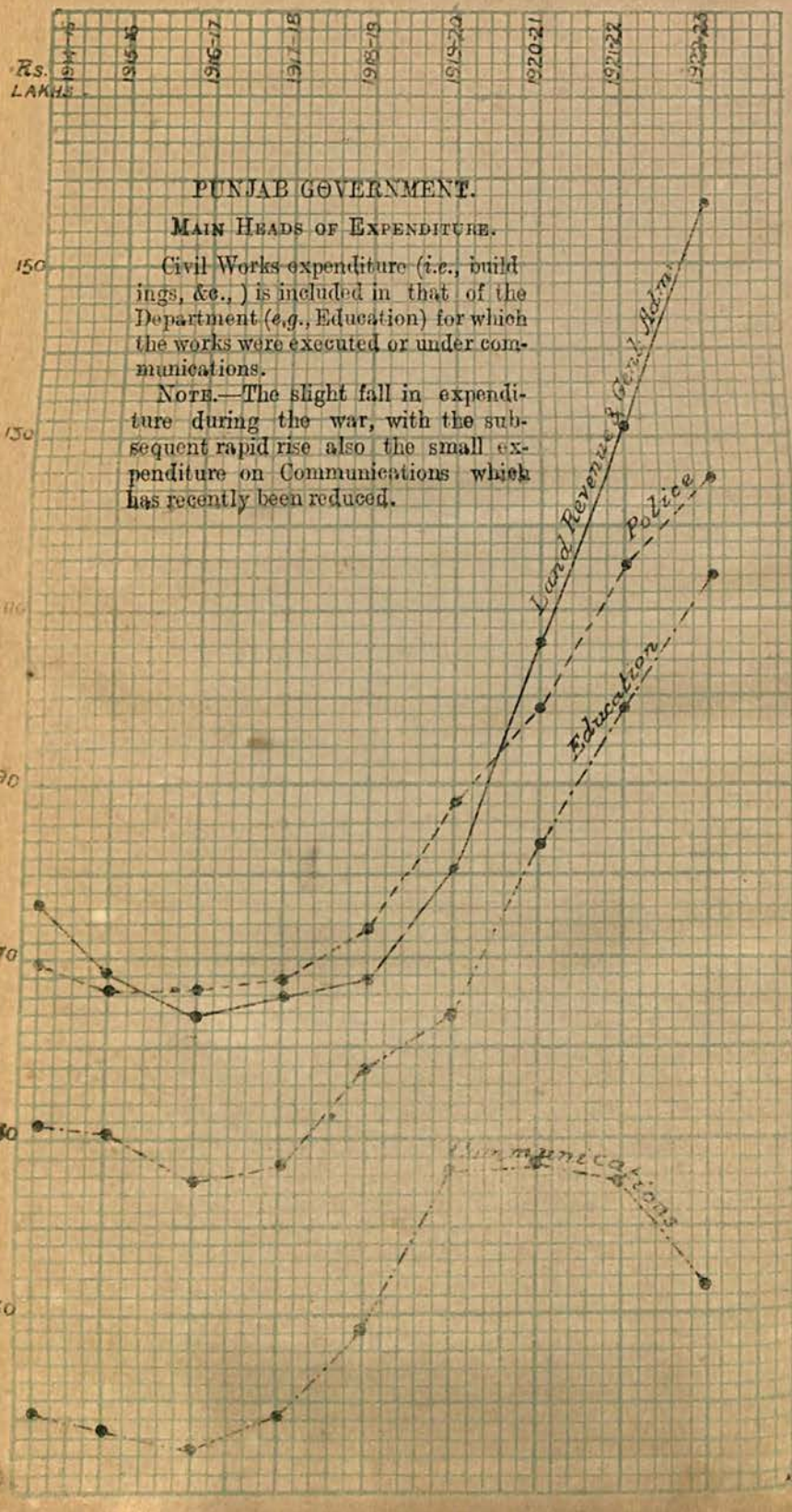
	1921-22.	1922-23.
REVENUE RECEIPTS.		
Land Revenue (excluding sale of Government land).	2,20	2,99
Excise	1,16	1,03
Stamps	82	89
Forest	50	34
Irrigation (working expenses deducted) ...	3,33	3,64
Education	7	9
Other beneficent departments	10	8
Other heads	59	68
Total Revenue income ...	8,77	9,74
Revenue deficit ...	2,05	87
Total	10,82	10,61
CAPITAL RECEIPTS.		
Sales of Government lands	33	30
Other receipts	14	46
Total Capital receipts ...	47	76
Capital deficit	88	41
Total	1,35	1,17

PUNJAB GOVERNMENT.

Main Heads of Expenditure.

Civil Works expenditure (*i.e.*, buildings, &c.,) is included in that of the Department (*e.g.*, Education) for which the works were executed or under communications.

Note.—The slight fall in expenditure during the war, with the subsequent rapid rise also the small expenditure on Communications which has recently been reduced.



Punjab Government Expenditure (Rupees in lakhs).

	1921-22.			1922-23.		
	Ordinary.	Civil Works.	Total.	Ordinary.	Civil Works.	Total.
EXPENDITURE CHARGED TO REVENUE.						
Contribution to Government of India.	2,01	...	2,01	1,75	...	1,75
Land Revenue and General Administration.	2,31	15	2,46	2,39	16	2,55
Forests	44	...	44	44	...	44
Irrigation (interest on debt) ...	75	...	93	78	...	90
Irrigation (miscellaneous expenditure).	18	...		12		
Police...	1,12	3	1,15	1,23	2	1,25
Education	88	10	98	1,00	14	1,14
Other beneficent Departments	82	8	90	80	3	83
Communications	...	45	45	...	33	33
Other heads	1,06	44	1,50	99	38	1,37
Total Revenue expenditure ...	9,57	1,25	10,82	9,55	1,06	10,61
CAPITAL EXPENDITURE NOT CHARGED TO REVENUE.						
Irrigation	19	...	19	92	...	92
Other items	1,16	...	1,16	25	...	25
Total Capital expenditure...	...	...	1,35	...	...	1,17

Distinction between Capital and Revenue accounts.

81. The most important new departure in budget procedure is the definite separation of capital receipts and expenditure from revenue receipts and expenditure. Previous to the Reforms, the expenditure on canal construction and loans to local bodies or agriculturists were, it is true, reckoned as capital expenditure. Loans for these purposes were advanced by the Government of India to the Province. But the receipts from sale-proceeds of waste lands and Government estates were previously credited to the head Land Revenue and the sale of town sites belonging to Government to the head Miscellaneous. These are now recognised to be of a capital nature and the Budget form has been amended accordingly. They are almost entirely receipts on account of land made available for cultivation

in the Canal Colonies and from the sale-proceeds of town sites, due to the creation of new towns in the colony areas. These receipts totalled no less than Rs. 170 lakhs in eight years,* and thus enabled the Province to accumulate the balance of Rs. 140 lakhs with which the Reform period commenced. It is also recognised that expenditure on Forests, Industries and Civil Works, which is directly remunerative, is of a capital nature, and only the interest on such expenditure and not the total amount should be debited to revenue expenditure under those heads. So far, however, it has not been found possible to adopt this procedure for these other departments. The large capital expenditure of Rs. 116 lakhs in 1921-22 under Other Items was due to the necessity for making large *takavi* advances to agriculturists for seed and other purposes in view of the previous succession of bad harvests. The increase from Rs. 14 to 46 lakhs under Other Receipts in 1922-23 marks the first instalment of the repayment of these advances. The large expenditure of Rs. 92 lakhs under Irrigation was mainly spent on the new Sutlej Valley Project.†

Loans on Capital Account.

82. The net capital deficit in 1921-22 amounted to Rs. 88 lakhs, of which Rs. 35 lakhs were met by loans from the Government of India and the remaining Rs. 53 lakhs by withholding the payment due to the Government of India on account of the balance of the Provincial Loan Account. The capital deficit in 1922-23 was met by a further loan of Rs. 41 lakhs from the Government of India. But the Government of India will be unable permanently to finance the Province by loans. It will be necessary for the Province itself to raise money on its own credit, and as a step towards this the Punjab Government has itself issued a loan at 6½ per cent. of which Rs. 192 lakhs were taken up. This will help to cover not only the commitments on capital account, but also the money due on the recurring deficits on revenue account.

Deficit on Revenue Account.

83. Capital expenditure of this type, so far from being a drain on the resources of the Province, is directly remunerative. Irrigation capital expenditure, for example, after paying all interest

*In the years 1914-15 to 1921-22.
Receipts from sale of government estates amounted to Rs. 32 lakhs.
Sale of waste land, Rs. 104 lakhs.
Sale-proceeds of town sites, Rs. 34 lakhs.
The year 1921-22 is post-Reform, but receipts from years previous to 1914-15 would more than counterbalance this.

†See also paragraph 197.

and other charges affords a large net profit to the revenues of the Province. But the deficits on revenue account are in quite another category. The total deficit in these two Reform years amounts to Rs. 292 lakhs and a further deficit of Rs. 63 lakhs has been budgetted for in 1923-24, making a total of Rs. 355 lakhs, so that the last three years have saddled the Province with an interest charge of Rs. 7 lakhs and a sinking fund of Rs. 25 lakhs or a total Debt Service of Rs. 32 lakhs, for which the Province has nothing to shew at all.

The deficit not mainly due to the Reforms.

84. The present financial deficit, though it has been intensified by certain large items of expenditure passed by the Council and by the Council's refusal to agree to new taxation, has its main origin in items of expenditure and financial arrangements determined on before the introduction of the Reforms, including the large increase necessitated in the pay of establishments by the rise in prices. This has swallowed up the anticipated increase in revenue, an increase which was not actually realised. The actual increase of expenditure due to the introduction of the Reforms themselves only amounted to about Rs. 5½ lakhs annually.

Financial adjustments between Central and Provincial Governments.

85. The first charge on the expenditure of the Province is its permanent contribution of Rs. 175 lakhs to the Government of India (*para.* 77). In 1921-22 an additional sum of Rs. 26 lakhs was taken by the Government of India as a compensation for the share of income-tax granted to the Punjab Government. In order to give them some sympathy with the efforts of the Imperial Income-tax Department, the provinces are granted 3 pies on each rupee of increase in assessed income over the amount assessed in 1920-21. The Punjab receipts under this head amounted to Rs. 5½ lakhs in 1922-23.

Civil Works executed for the various Departments.

86. It is now generally recognised that expenditure on Civil Works executed by the Public Works Department (Buildings and Roads Branch) for various departments ought to be included in the expenditure under those departments. It is only in this way that it is possible to compare the expenditure on these departments and that on Communications accurately. It should be remembered, however, that those sums which are shown in the Receipts and Expendi-

ture statement as paid for Civil Works executed for various departments only include the actual cost paid to contractors for the work done and do not include the overhead charges of the Public Works Department itself which maintains a large staff for the superintendence of such work.

Departmental expenditure.

87. All the ordinary cost of administration is included in expenditure under the heads Land Revenue and General Administration, and Police.* Prices have risen, and the pay of the higher Indian officials (Tahsildars are a notable exception) has risen more than proportionately, with a consequent rise in the cost of administration. Expenditure on Education has again risen from Rs. 98 in 1921-22 to Rs. 114 lakhs in 1922-23 and that on Industries from Rs. 6½ to 8½ lakhs, but expenditure on all other beneficent departments† has fallen. The expenditure under the head Agriculture amounted to Rs. 30 lakhs in 1922-23. This included Rs. 15½ lakhs on the Agricultural Department, Rs. 9½ lakhs on the Veterinary Department‡ and only Rs. 4½ lakhs on the Co-operative Department, which, with an unlimited field for expansion, has more than any other felt the effects of the present financial stringency.

Diminished expenditure on Communications.

88. The decline in expenditure on Communications is perhaps even more vital to the development of the Province. Though not directly remunerative, roads are necessary to agriculture and commerce and thus increase the wealth and taxable capacity of the people. In England a quarter of the £40 millions spent annually on roads is raised by motor taxation. When it is realised that the Punjab with twice the area and more than half the population of England only spends one-hundredth of this amount (Rs. 33 lakhs from the Provincial Government and Rs. 24 lakhs from local bodies) the inadequacy of its communications will be appreciated. Most of this meagre allotment goes on repairs. There has been hardly any new construction. Less than Rs. 2 lakhs was spent on new construction this year as against Rs. 24 lakhs in 1919-20, Rs. 19½ lakhs in 1920-21 and Rs. 8 lakhs in 1921-22. It is particularly unfortunate that since the

* See graph.

†The so-called beneficent departments are those whose beneficence is more in the public eye, than that of those connected with Law and Order. They are generally transferred departments

‡In paragraph 151 it is stated that the Provincial expenditure on the Veterinary Department is Rs. 8 lakhs. This does not include Rs 1½ lakhs non-voted expenditure on the higher official staff.

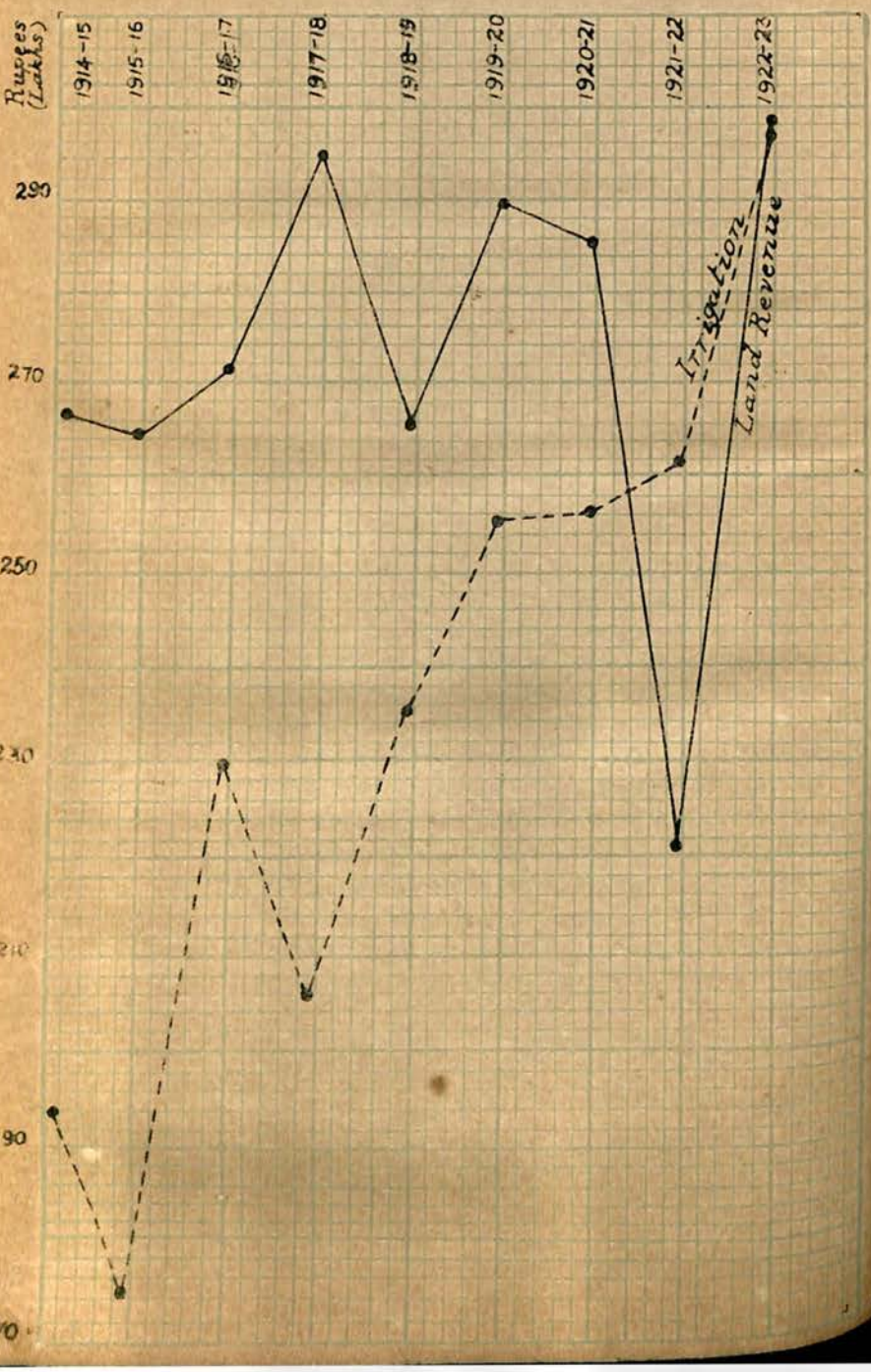
PUNJAB GOVERNMENT.

Irrigation and Land Revenue Receipts.

Sales of land are excluded from land revenue receipts.

Land revenue, generally stationary, fell heavily in 1921-22 owing to bad harvests.

Irrigation receipts shew a steady rise. These are net receipts after deduction of working expenses and interest.



creation of the Communications Board* that body has had very little money to spend on the imposing schemes to which it has devoted so much time and consideration.

Revenue Receipts: Land Revenue.

89. The main Heads of Revenue Receipts are Land Revenue and Irrigation. As has already been explained (*para.* 81) receipts from sales of waste lands and Government estates which were formerly included under the head Land Revenue, have been excluded in the statements. It will be seen from the graph that Land Revenue fluctuates violently round a norm of about Rs. 273 ; which has hardly increased at all and certainly not in proportion to the rise in prices and increase in the wealth of the Province. In 1921-22 bad harvests necessitated large remissions and suspensions of land revenue, while in 1922-23 owing to good harvests and recovery of some of the land revenue suspended the receipts reached a maximum. These violent fluctuations are disturbing to Provincial finance and to guard against them some form of insurance on the line of famine insurance seems advisable.

Irrigation Receipts; large net profit.

90. The following statement shews clearly how much the Provincial Receipts owe to the Irrigation Department :—

Irrigation, Income and Expenditure.

	Income.			Expenditure.			
	Direct.	Indirect.	Total.	Working expenditure.	Interest.	Total.	Net profit.
1914-15	255	112	367	103	71	174	193
1915-16	247	118	365	119	72	191	174
1916-17	287	130	417	118	70	188	229
1917-18	282	118	400	120	75	195	205
1918-19	285	146	431	120	76	196	235
1919-20	331	134	465	135	75	210	255
1920-21	340	143	483	154	73	227	256
1921-22	332	187	519	154	74	228	261
1922-23	370	181	551	180	75	255	296

Direct receipts are composed of water rates levied directly on canal-irrigated land. Indirect receipts consist

*See 1921-22 Report. I, 286 foll.

of the estimated extra land revenue resulting from canal irrigation, after deducting the additional expenditure of administration. It is collected by the land-revenue authorities and transferred to the Irrigation Department by book-credit. After deducting working expenses and interest on the capital cost a large profit remains. This of course leaves out of count the other revenue that Government derives from the Canal Colonies, all ultimately due to the Irrigation Department.

New Budgeting procedure.

91. The financial changes made under the Reform Scheme have necessitated a revision of budget procedure. The Government of India Act* requires that the estimated expenditure and revenue of the Province should be laid in the form of a statement before the Council in each year, and the proposals of the Local Government for the appropriation of provincial revenues and other moneys in any year shall be submitted to the vote of the Council in the form of demands for grants. This statement is called the Budget and is presented to the Council every March. It is based on a main division of expenditure into major heads, such as Education and Agriculture, which are again divided into minor heads, such as Primary Education and Co-operative Credit which are themselves divided into primary units of appropriation, such as Pay of Officers, Pay of Establishment, Travelling Allowance and Contingencies.

Classification of expenditure.

92. All expenditure must be one of eight kinds according to the following sub-divisions :—It must be either voted or non-voted ; reserved or transferred ; and capital or revenue. Non-voted expenditure consists of contributions payable to the Government of India, interest and sinking fund insured on loans, expenditure of which the amount is prescribed by any law, and salaries of the Imperial Services and judges of the High Court. These are not in the power of the Council to withhold. From the Budget point of view reserved items of expenditure are distinguished as those which when struck off by the Council may be restored by the Governor. The distinction between capital and revenue expenditure, though of fundamental importance, has never been clearly defined. Certain major heads of account are now classified as capital heads, and the convention is es-

*Section 72 D.

tablished that no expenditure is debited to these heads unless it is directly remunerative. The interest on the most important capital head, that is, of canal construction, is debited to revenue expenditure under Irrigation, and in course of time a similar procedure will, it is hoped, be adopted with regard to the interest on capital expenditure under Forests, Industries and Civil Works.†

The Statement of Excesses and Surrenders.

93. In estimating the ordinary expenditure for the new year it is important to have an accurate estimate of the expenditure to the end of the current year. This is greatly facilitated by the new Statement of Excesses and Surrenders which explains to what extent supply voted will be too little or too much for the expenditure of the year. This statement also enables an excess under any major head to be set off against savings elsewhere, in pursuance of the great principle that unanticipated expenditure should be met by savings in other directions. It also enables the revised estimate of expenditure to be prepared, which under the new system now introduced is based on this statement as the most accurate means of foretelling expenditure. It also enables lapses to be carried over to next year's Budget. In the past a great defect of the Budget system has been that the fear of losing grants irrevocably has led to reckless spending in the last month of the year. Under the new system lapses reported under most primary units will be made good in the next year's Budget, provided that there is no excess over the major head, and provided that the accounts bear out the estimate. Conversely, excesses under a major head may be penalised by deductions from next year's provision. It is now to the interest of officers to underspend rather than to over-spend as if lapses are reported in time (and the last date is February 1st) they will be restored and can be spent at leisure next year.

New expenditure and Civil Works.

94. In theory any new expenditure, anything that is over and above what is provided in the Budget for the current year, should be excluded from the estimates of ordinary expenditure and brought before the Standing Finance Committee (*para.* 24) in the Schedule of New Expenditure or the lists of major and minor works. But practical considerations modify the application of this principle, and

† See also paragraph 81.

it is only between December 1st and April 1st that the power to sanction expenditure which affects the next year's budget is in abeyance. The Schedule of New Expenditure includes all new schemes which it is proposed to introduce with effect from April 1st, and all expenditure which has been sanctioned for disbursement to the end of the current year only and which it is proposed to continue, as well as any expenditure over the current year's allotment under Contract Contingencies, Supplies and Services, Grants-in-aid, Contributions and Donations. It rests with the Heads of Departments to persuade the Finance Department and Standing Finance Committee as to the importance of the projects for new expenditure or Civil Works, which they put forward. Separate estimates are made for expenditure in England, which is mainly incurred by the High Commissioner for stores or on account of the pay of officers on leave or deputation.

Powers of reappropriation delegated to Heads of Departments.

95. Members and Ministers are associated in the scrutiny of the Schedule of New Expenditure and the lists of Civil Works, as these lists come from the Secretaries in the Administrative Departments. The remainder of the Budget is in its earlier stages a matter of routine and is taken direct from the Heads of Departments. After demands for voted expenditure are passed by the Council they and the non-voted expenditure under each head have to be communicated through Heads of Departments to the Disbursing Officers, *e.g.*, Deputy Commissioners. As a matter of administrative expediency Ministers and Members have a statutory right of reappropriation within a minor head, that is, of diverting supply voted or assigned to one minor head, from that minor head to another. But the apparently wide powers of the Member or Minister are limited by the obligation, first, not to commit the Council to expenditure in ensuing years, and, secondly, not to go beyond or defeat the intentions of the Council in voting the grant. These powers are generally delegated by Members and Ministers to Heads of Departments. In the case of Civil Works powers of reappropriation are granted to the Public Works Department and not to the departments concerned. For if the work of Government as a whole is to be carried on in an economical manner the Public Works Department must be able to use anticipated savings on one work to meet excesses on another. The department in whose

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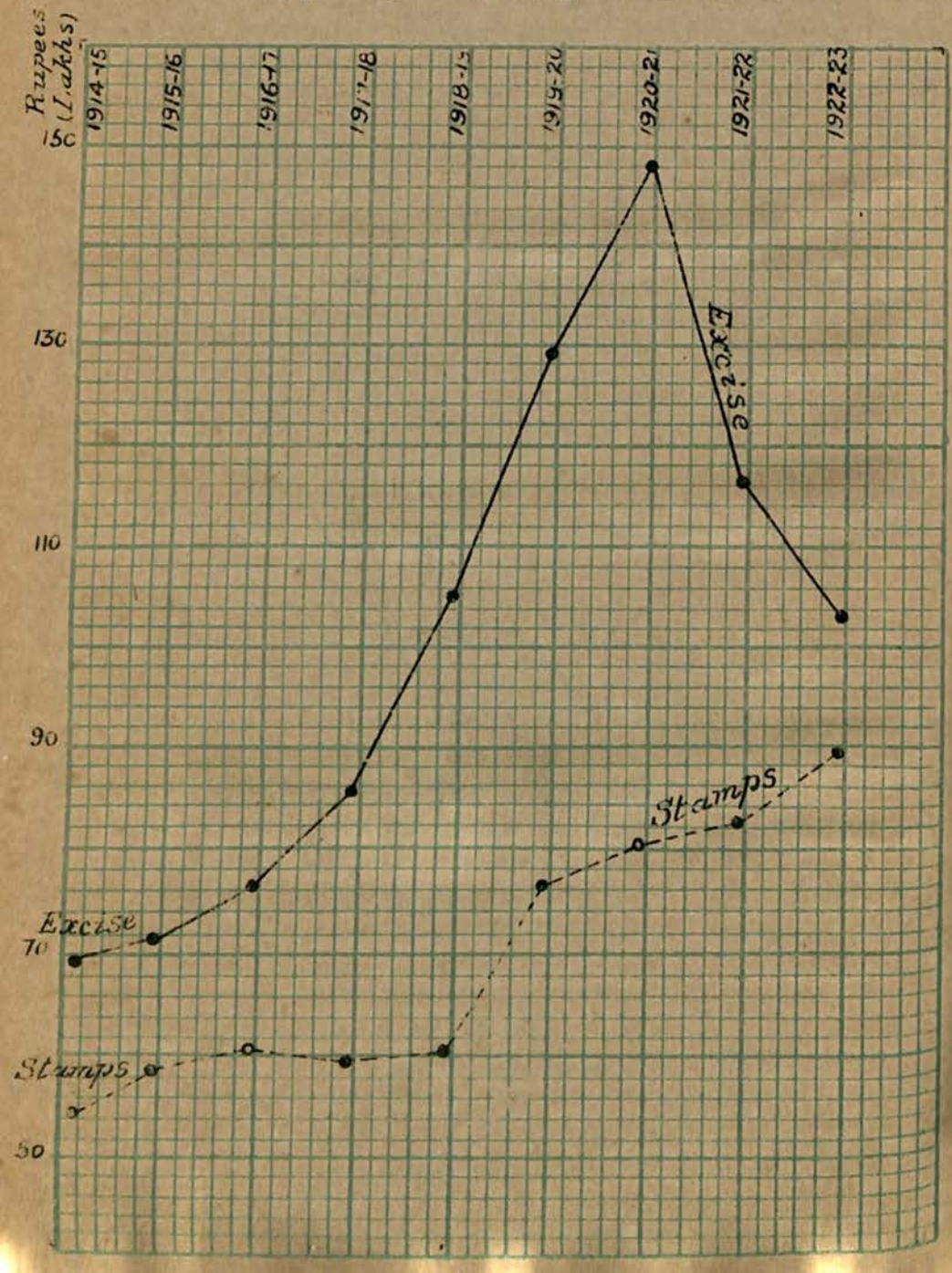
PUNJAB GOVERNMENT.

Excise and Stamp Revenue.

Note 1.—The rapid rise in excise revenue with the growing wealth of the Province and the increased efficiency of the Excise Administration, and the subsequent fall on the inauguration of a temperance policy under the Reforms.

2.—The slow increase in stamp revenue is hardly in proportion to the rise in prices and increased wealth of the Province. The effect of increased rates was only partially felt in the slight rise in 1922-23.



case a saving accrues does not ultimately lose because the unfinished portion of the work appears in the Budget of the next year as a work in progress.

Control of Expenditure.

96. The last and the most important duty in connection with the Budget is to see that allotments are not exceeded. With a vigilant Council, jealous of its rights, the expenditure of sums substantially in excess of Budget provision will embarrass Government very seriously, because the fundamental fact of the constitution is that in voted heads there must be no expenditure for which the Council has not provided funds. For this purpose Heads of Departments have to make such arrangements as conditions in their respective departments require. The main principle is, however, the same in every case. Starting from the bottom the Disbursing Officer must not without authority exceed the sum assigned to him under each primary unit of appropriation. If he has reason to desire or expect increased expenditure he should apply to his superior officer for funds. If the Head of a Department finds no source of reappropriation in any of the minor heads of his department, it then becomes necessary either to find money from the Civil Contingencies Fund or to go to the Council for a supplementary demand.

Stamp Revenue.

97. The Stamp Revenue is derived from two classes of stamps. Under the Court-fees Act, 1870, by which judicial stamps must be placed on legal documents, a very inadequate tax is levied on litigation, the most flourishing and least profitable industry of the Province. By the Stamp Act, 1899, non-judicial or revenue stamps must be affixed to such documents as bills of exchange, share transfers, legal practitioners' licenses and cheques. The revenue from stamps has not expanded with the increase in the wealth of the Province and the price level. In the year 1922, however, the duty on both classes of stamps was raised to roughly double the previous amount. Little of the increased revenue, however, came in the year 1922-23 as will be seen from the Statement below.

	Judicial Receipts.	Non-Judicial Receipts	Total Receipts.	Charges	Net receipts.
1921-22	51	32	83	3	80
1922-23	59	31	90	3	87

The increase of Rs. 8 lakhs in judicial receipts, though partly due to the enhanced rates, is also mainly due to increased litigation ; while in the case of non-judicial stamps tightness of the money market and good harvests, resulting in prosperous agriculturists and diminished mortgages, have actually led to a decrease of Rs. 1 lakh in the income.

Diminished revenue from Excise.

93. The statement below gives an abstract of the revenue and consumption of Excise commodities for the years 1921-22 and 1922-23 :—

	Revenue (*Lakhs of Rupees*).		Consumption (*Thousand gallons ; Thousand sers*).	
	1921-22.	1922-23	1921-22.	1922-23.
Country Spirit ...	59	47	3,01	1,88
Beer ...	7	9	19,48	19,46
Wines Spirits ...	6	10	1,09	1,32
Opium ...	30	30	38	35
Hemp drugs ...	14	14	93	96
Total Revenue ...	1,16	1,10		
Expenditure ...	4	8		
Net Revenue ...	1,12	1,02		

It will be seen that the net revenue which was Rs. 145 lakhs in 1920-21 and fell to Rs. 112 lakhs in 1921-22 has again fallen to Rs. 102 lakhs in 1922-23. This fall is due to the decreased licit consumption for country spirit following on the temperance policy of Government, in consequence of which though the rate of duty has been increased the receipts under this head have again fallen by Rs. 12 to 47 lakhs. But the enhanced price of country spirit caused a slightly increased consumption of Indian made beer and a considerably increased consumption of foreign liquors, which combined with the increased duty has brought an increased income under these heads of Rs. 6 lakhs. In the case of hemp drugs, *charas* and *bhang*, both revenue and consumption have remained practically stationary. In

this case the limit of profitable taxation seems to have been reached. A further enhancement would not lead to increased temperance but only to increased smuggling and consequent reduction in legitimate income.

Opium smuggling.

99. The same limit has been reached in the case of all Excise commodities. The retail price of Excise opium has now risen so high that it is a very profitable business to smuggle opium into the Province from Rajputana and the North-West Frontier Province. Seven years ago the price of opium in the Province was so low that it was necessary to restrict issues to retail shops in order to prevent opium being smuggled out of the country. Now the price of opium is so high that it is unnecessary to limit the supply to each retailer. The difficulty now is not to prevent opium from leaving the Province but to prevent it from coming in from outside. Unless special arrangements are made for largely increasing the preventive staff, it will be difficult to raise the issue price of Excise opium very much higher. Every such increase in price is a stimulus to smugglers and must cause a falling off in the licit consumption and probably also in the total income. The year 1922-23 has witnessed a considerable decrease in licit consumption, though it is doubtful how far there has been a decrease in real consumption. The increased duty has, however, prevented any loss to Government, though a further increase in duty would probably result in a diminished revenue combined with large increase in smuggling.

Gallonage system of fees for country spirit retail vend licenses.

100. But it is in the case of country spirit that these principles are most clearly exemplified. Political agitation in the year 1921-22 culminated in a vigorous campaign against liquor shops just before the licenses for those shops were auctioned. It was accordingly decided to modify the auction system. In January 1922 country liquor and bazar foreign liquor auctions were a complete failure. In most districts intimidation was openly practised. Frequently no bids were received at all. Deputy Commissioners were accordingly directed to call for tenders, but before these could be accepted it was decided to effect a radical alteration in the whole vend fee system. All negotiations were called off and tenders were invited for licenses under this new sytsem. This substituted for

the lump sum fixed fee for the whole year a fee payable on every gallon of 30 ° under proof liquor which was drawn by the licensee from the distiller or wholesaler. The still-head duty was raised from Rs. 10-10-0 to Rs. 14-1-0 per gallon, and it was anticipated that the necessity for keeping down the retail price would lower the vend fee rates.

Decreased inducement to push sale of liquor.

101. Both the new vend fee system and the new duty took effect from 1st April 1922. Tenders were not an essential part of the new system, but political excitement, though on the wane, had not died down, and it was decided not to risk auctions again. A retail licensee has not now the same incentive to push the sale of his goods as he would have if he had paid a lump sum for the right to sell the article and had to recoup himself before he could make any profit. Moreover, with the new gallonage or surcharge rate, he can always reduce his losses to a minimum by refraining from selling liquor if he has inadvertently tendered at too high a rate. As a matter of fact, it was found that many persons did tender at rates which were ridiculously high. Their object was probably to play into the hands of those persons who were endeavouring to close liquor shops forcibly. They could do this quite easily by refraining from selling liquor at shops for which they were selected or else by selling it in such minute quantities as not to suffice for the needs of the local population. It had been calculated that a fee of Rs. 8 per gallon in cities and Rs. 4 in the country were such as licensees could afford. Where these rates were exceeded the shops were generally transferred to reliable licensees at reasonable rates.

Decreased consumption of Country Spirit.

102. The astounding decrease in the consumption of country spirit from 301,000 to 188,000 gallons (*para.* 98) would be a reason for congratulation if it were certain that it represented an actual decrease in the consumption of alcoholic liquor. Unfortunately there is reason to suppose that the decrease in the consumption of liquor on which duty has been paid has been to some extent balanced by an increase in the consumption of illicit liquor. It is impossible to say to what extent illicit liquor has displaced licit liquor, but it may be conjectured that the displacement is not to the full amount of the difference between the

figures of consumption in the year under report (188 thousand gallons) and the previous year (301 thousand gallons). The reduction is partly to be attributed to the efforts of political reformers, who have really persuaded some people to restrict their taste for alcohol. Political agitation has, in fact, diminished revenue in two ways. The personal appeal to the individual has, in some cases, induced him to restrict his consumption while the contempt for authority which it has inspired has facilitated illicit distillation.

Excise Policy: Decreased number of licensed shops.

103. The Excise policy of the Punjab Government aims at securing the minimum of consumption, but that the proportion of profits from that minimum of consumption which is to accrue to the State should be as large as possible. In practice this policy implies an increase in still-head duty and a diminution in the number of licensed shops. The still-head duty was raised from Rs. 7-8-0 to Rs. 10-10-0 a gallon in November 1921 and again to Rs. 14-1-0 in April 1922. The number of licensed country liquor shops which was 666 in 1919-20 fell to 567 in 1921-22 and again to 525 in 1922-23. These shops are in the proportion of 7 to every 100,000 of the urban population and 2 to every 100,000 of the rural population. This proportion is less than that of any other of the major provinces of India and probably reduction has been carried too far. As a result the price of liquor has been forced up beyond the natural increase in price due to the increased still-head duty or to the increased license fees. Shops, especially in rural areas, are now at such distances from each other that the licensee of each shop has a monopoly of the sale of liquor in the neighbourhood and is able therefore to force up the price without fear of competition. This increased price would not be a bad thing if Government shared the profit but in practice the whole increase over and above that due to the increased still-head duty and license fees goes into the pocket of the licensee, who finds it profitable to sell a small quantity at a higher price rather than a larger quantity at a lower price. In fact, the retail licensee has done so well out of the new arrangements that he is able to ignore the competition of the illicit distiller whom he appears to regard now with a mild toleration, if indeed he is not frequently in league with him.

104. The high price of country spirit, both plain and spiced, has undoubtedly given an impetus to illicit distillation in those areas where it was common in past years. It has also stimulated the activities of smugglers from Indian States. Most of these States enjoy a concession under which travellers from the States into the Punjab are allowed to take with them country spirit not exceeding one quart bottle in quantity. This concession is being abused on a very large scale. Even if a man keeps within the law, he can make a large profit by going to and fro from an adjacent State and bringing with him one bottle at a time. In Ambala City, for example, there was a constant stream of men returning from Patiala territory by train each bringing with him a bottle of country spirit bought in the State. In the Simla district an Indian State allowed a shop to open within 50 yards of British territory. The shop did a roaring trade in the sale of country spirit to people from the Simla district. The extent to which this trade of export from the State shops to the Punjab has increased may be judged from the fact that one shop in an adjacent State which used to be sold for Rs. 28,000 two years ago is now sold for Rs. 1,20,000. The difference should have accrued to the Punjab Government instead of the State, because it represents entirely the profits derived from exporting spirits from the State into the Punjab.

High prices of country spirits cause smuggling from States and illicit distillation.

105. All these facts tend to shew that for the present a limit has been reached in the reduction of facilities for obtaining licit country spirit. Before making any further advance it will be necessary to wait until reformers have induced people to refrain from using illicit spirit in place of licit spirit. But the admonitions of reformers will be more effective when supported by the preventive action of an increased Excise staff. The increased cost can be partly met by the increased revenue due to the substitution of licit for illicit spirit, but it would be erroneous to suppose that the whole cost of an increase in the preventive staff can be made up in this way. The drinker of illicit spirit will not always be able to afford to drink licit spirit, and if we put down illicit consumption with a strong hand, we must be prepared to stand the cost. There is another point to remember. No conceivable increase in the number of the

A temperance policy requires—
(1) a large preventive staff; and
(2) public sympathy.

preventive Excise staff can possibly effect a complete cessation of illicit distillation or indeed even a considerable reduction in illicit distillation unless the people themselves are on the side of Government and will help Government in securing these ends.* It is here that Temperance Societies can most usefully do their work. If the people do not wish to be sober and if they intend to consume excisable articles whether they can obtain them licitly or not, it will be obviously foolish for Government to go any further and to restrict the sale of licit, and thus to encourage the sale of illicit excisable articles.

The new Imperial Income-tax Department.

106. By the Financial arrangements made under the Reform Scheme income-tax receipts, half of which were previously credited to the Province, are now credited to the Imperial Government.† The new Income-tax Department came into being on the 1st September 1921. From the start it was charged with the assessment of the whole Province, and upon the introduction of the new Income-tax Act on the 1st April 1922 it passed from the control of the Local Government to that of the Imperial Inland Board of Revenue. The new department started with a staff of two Assistant Commissioners (pay Rs. 1,000—50—1,500 per mensem) to hear appeals, 20 Income-tax Officers (subsequently increased to 26), (Rs. 300—40—850) to do the work of assessment and 54 Inspectors (subsequently increased to 56), (Rs. 120—7½—240), for survey and enquiry. Owing to the provisional amalgamation of the North-West Frontier Province with the Punjab for Income-tax purposes, a third Assistant Commissioner was subsequently added.

Difficulties experienced in starting the new Department.

107. The Department started with an inexperienced staff. This was an unavoidable result of the policy of handing over the assessment of the Province to the new department at its birth. In most other provinces the transfer is being gradually effected, a course for which there is much to be said. The second difficulty was the impossibility of giving the staff any training, as the department was created in the middle of the year and was faced at the outset with the

* Readers of Scott's *Guy Mannering* will recall the very similar attitude of the natives of Scotland towards the English Excise Administration in the eighteenth century.

† See 1921-22 Report, I, 121.

necessity of doing twelve months' work in six. It was not till 1922-23 that any systematic training could be attempted, and that only in the case of new appointments. Moreover a new Act was introduced in April 1922 involving a number of changes in law and procedure, which required close attention on the part of the staff. The old system of registers, too, was scrapped and replaced by that in force in the United Provinces. This imposed a heavy task upon the clerical staff which was almost as untrained as the executive. Finally, as a result of systematic survey and enquiry there was a great expansion of work without a corresponding expansion of staff. The latter was only sanctioned towards the close of 1922-23.

Results of the new assessment.

108. The results of the last two years working are shewn from the following table :—

	Assessees.	Demand (excluding adjustment Rs. (in lakhs).	Collections Rs. (in lakhs).	Arrears (at close of year) Rs. (in lakhs).
1921-22	21,587	78	57	49
1922-23	24,683	75	82	37

With a population of just under 21 millions there are 24,683 assessees, of whom 3,011 are salary cases. Taking the demand of 70 lakhs, which is approximately what it is likely to be after all the appeals have been heard, we get an average tax of Rs. 284 per assessee. Considering that less than 8 lakhs are paid by companies, this is a tolerably high average, and it would be interesting to compare it with the average for other provinces similarly situated. Taking the urban* population of the Province 2,212,191 we find that the demand works out to Rs. 3-3-0 per head or Rs. 14-5-0 per family.† With this may be compared the land revenue demand of the Province (Rs. 440 lakhs), which gives an average of Rs. 2-6-0 per head of the rural population‡ or Rs. 10-11-0 per family. The urban classes are now, perhaps for the first time, paying something like their fair share of taxation. Another point of interest is that,

* By urban is meant any municipal area, cantonment or town of 5,000 inhabitants or more.

† According to the latest census report the average number of persons per house is 4·5.

‡ 18½ millions.

though Muhammadans preponderate in the Province, only 1,880 of them, or less than 8 per cent. of the total number of assessees, pay income-tax. This shows how little of the trade of the Province is in their hands.

Methods employed by the new Department.

109. The work of the new department has been done with less respect of persons than perhaps was possible under the old *regime*, and many wealthy men have discovered this to their cost. At the same time every precaution has been taken against possible over-assessment, and Income-tax Officers have been ordered to make enquiries into all marginal cases, and where there is a genuine doubt, assessment has been cancelled. Over 3,000 new assessees were discovered during the year (1922-23), and that it should have been possible to do this in a year of slack trade is due to under-assessment in the past and to the wide extension of the survey system which was already in force. Under this system it has for some years been the practice in the large towns to make house to house or shop to shop enquiries and to note the result in an Income-tax Doomsday book called the survey register. In the year 1922-23 nearly 73,000 shops and houses were surveyed in this way, and by the end of the current year it is hoped that the survey of the whole Province will be completed. How fruitful the system can be, may be gathered from the example of Rawalpindi where as many as 322 new assessees were discovered. It may be doubted whether anything like our present number of assessees (24,683) could have been obtained without the help of the system, which however requires a large subordinate staff and careful control.

Classification of incomes.

110. Two years ago (1920-21) house property yielded only Rs. 1·24 lakhs; last year (1922-23) over Rs. 4 lakhs were obtained. In Lahore alone the demand has risen from Rs. 16,645 to Rs. 1,32,000. This remarkable increase, which rests upon definitely ascertained facts, is mainly due to more accurate survey, and in some areas to a systematic classification of house property. The latter has been found to be so fruitful that it is being adopted in all important urban centres. Formerly much reliance was placed upon municipal registers, but experience shows that this is not always wise. Ten years ago the tax upon official salaries formed 25 per cent. of the demand. It is now no more than 10 per cent. Even so,

the proportion is probably still too high. Another satisfactory change is that, thanks to the new Act, private employees no longer escape to the extent to which they did, and they now pay ten times as much as they did last year. The legal profession before was notoriously under-assessed. Now, altogether 782 pleaders out of a total number of 1,534 have been taxed on an income of 45 lakhs. It has been said that litigation is the second most important industry of the Province. In view of this it may be doubted whether the legal profession is yet fully assessed. In Lahore, for instance, only 72 out of 293 are taxed. The difficulty in the matter is the inability or reluctance of most lawyers to produce accounts.

The village money-lender.

111. Even more important than litigation is money-lending. This is shown by the fact that 6,618 rural money-lenders are taxed upon a total income of $1\frac{3}{4}$ crores. This means that out of every four assessees at least one is a village money-lender. There is no class whom it is more difficult to assess fairly. Their accounts are of the simplest character and kept in the most haphazard way, and there is no means of ascertaining whether all have been produced or not. The money-lender, too, is the shyest and most secretive of men. His assessment, therefore, is mainly a matter of guess work based upon local enquiry, and is more a tax upon reputation and status than upon ascertained income. That he is over-taxed may be doubted, for enquiries made in another connection* suggest that the total rural debt of the Province is not less than 75 crores, upon which interest charges at the moderate rate of 12 per cent. would amount to 9 crores, whereas at present less than two crores of income are taxed.†

Collections.

112. The efficiency of the new department has perhaps been shewn as much in its collections as in its assessment. In 1922-23 82 lakhs were collected against only 49 lakhs in 1920-21. The assessee has still to be educated to punctual payment. Penalties had to be imposed in over 5,000 cases. The

* See Proceedings of the sixth Annual Conference of the Indian Economic Association 1923, page 141 where proprietors' debt is estimated to be 65 crores. To this must be added at least another 10 crores on account of tenants.

†Even if we deduct 3 crores as the value of interest charges on mortgages with possession which would not be taxable, six crores remain.

results have been excellent, but there are still places—Lahore is the most glaring example—where the assessee has yet to learn that revenue due to Government must be paid by the prescribed date. Penalties are naturally resented, but the remedy is entirely in the assessee's hands. They are only imposed in so far as they are required to obtain punctual payment, and there is of course no idea, as is sometimes supposed, of making them an additional source of revenue.

Reluctance of assessees to produce accounts.

113. The chief difficulty in making a fair assessment lies in the great reluctance shewn by assessees to submit an accurate return of their income or to produce their accounts. Even when accounts are produced it is often impossible, owing to the way in which they are kept, to work out exact profit or loss. All that can be done, till better accounts are produced, is to make careful enquiry as to the normal rates of profit in each trade. Where exact profits cannot be ascertained a flat rate is applied to turn-over. This is a most unsatisfactory method of assessment, but in the circumstances it is unavoidable. The insistence upon the production of accounts and the increasing care which is taken in their examination are beginning to have an educative effect upon the business methods of the Province, so that even from the point of view of the assessee there may be something to be said for income-tax.

Agitation against enhanced Income-tax in Amritsar.

114. In only one place has the increase in assessment led to agitation. This occurred in Amritsar in the early summer of 1922 and was due to various causes. Amritsar had hitherto escaped with a light assessment, and during the boom years which followed the close of the war many lakhs of revenue were lost to Government. In 1921-22, for the first time, a systematic attempt was made to enhance the tax, without respect of persons, to something like its proper figure. The operation caused more than the usual discomfort, as it coincided with the end of the boom. Moreover, the almost entire absence of accounts made it impossible, except in a comparatively few cases, to calculate profits with any exactitude. A good instance of this is the piece-goods trade, which is the most important in Amritsar. In 1921-22 out of over 150 merchants only 17 submitted accounts. Though Amritsar is the commercial capital of the

Punjab, and has direct commercial dealings with England, America and Japan, in this respect at least, it has proved itself to be behind any other large town in the Province. In 1922-23, for instance, which was much better than the year before, hardly more than one out of every three assessees produced accounts. This may be compared with Ludhiana, also a piece-goods centre, where over 70 per cent. produced them. When accounts are withheld, there is a natural presumption that the tax is not excessive, and, till the contrary is proved by their production, this is the presumption that must be drawn in regard to Amritsar.

CHAPTER VIII.

AGRICULTURE.

[And he gave it for his opinion, that whoever could make two ears of corn, or two blades of grass, to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country, than the whole race of politicians put together.

SWIFT—Gulliver's Travels. II, vii].

Work of the Agricultural Department.

115. In October 1923 during his visit to the Punjab, His Excellency the Viceroy went to Lyallpur. His speech at the Lyallpur Agricultural College marked his appreciation of the valuable work that is being done by the Agricultural Department at a cost of Rs. 15½ lakhs, of which about Rs. 7¼ is spent on agricultural expriments. "It is," he said, "almost incredible that within the memory of many who are present in this hall to-day, the place where Lyallpur now stands was a few years ago the centre of a primæval desert, void of inhabitants except for a few nomad graziers on its borders, inhospitable and unproductive. Thanks to the skill of the Punjab Irrigation Engineers and the energy of successive Colonisation Officers, the Lower Chenab Colony has become one of the richest tracts in the Punjab. The Lyallpur District, where a few years ago the desert held its sway, has now nearly a million prosperous inhabitants, and its produce in cotton, wheat and oilseeds is bartered for in the markets of the world. To this prosperity the work of the Punjab Agricultural Department has contributed in no small measure, and it is eminently fitting that its chief experimental station and college have been erected here. Let me congratulate the officers of the Department on the fine work—in my estimation of incalculable importance for India—they have done in connection with wheat and cotton, and I desire especially to congratulate Mr. Roberts and Mr. Milne for their valuable work in this connection.

Importance of Agriculture to the Punjab.

116. "Though we all hope that India is on the threshold of extensive industrial development, agriculture will always remain the most important industry of the Punjab. Its climate, its great alluvial plains, its fertilising rivers and its communications with the ports of Karachi and Bombay render it specially fitted for the production of wheat and cotton,

and these are commodities for which, as the world progresses, the demand must be constant and increasing. I cannot lay too much stress on the wonderful opportunity which the Punjab has of producing the special qualities of wheat and cotton required to meet this demand. Their supply constitutes a formidable economic problem for many countries in the world, but the Punjab is placed in the favourable position of being able to meet its own needs and help to fill the gap in the world's supply also. It is not possible to overestimate the great importance of increased production for India, as we are at present passing through a period where unfortunately reduction figures more prominently than production. If India produced more, not only would this increased production bring in its train more wealth and comfort for each individual producer, but indirectly more revenue would accrue to the State from railway receipts, from customs duties on imports purchased in the process of the expansion of wealth and in many other indirect ways. Those ill-omened twin stars, retrenchment and taxation, by which the Government in hard times is often forced to steer its course, might in such circumstances sink low on our horizon. By retrenchment I mean not the economical working of the Government machine, but a forced retraction in expenditure on beneficent activities.

Agricultural Research.

117. "Judged by these tests the labours of the Punjab Agricultural Department are of inestimable value, both to the Government and to the people of the Punjab. I envy the Ministers under the reformed Government who have the beneficent activities of the Agricultural Department in their charge. There can be no subject which offers so congenial and fascinating a field for the improvement of the condition of a province and its people. Agricultural research is a most legitimate and worthy object for the benefactions of generous donors. In many parts of the world scientific research of various kinds benefits very materially from trust funds established by private persons. India has instances of such generosity in the Institute of Science at Bangalore. As regards agricultural research, I may draw attention in particular to the great institution at Rothamsted in England, which has done magnificent work for agriculture both in England and other countries, and to the foundation and maintenance of which private generosity has so largely contributed. I hope some

day to see private individuals in the Punjab who will emulate the example I have quoted, and help to stimulate for the benefit of their fellow Punjabis advance in the premier industry of this province.

Opportunities for students at the Agricultural College.

118. "I have been greatly impressed in India with the narrow field of aspirations which bounds the vision of the educated youngmen of this great country. Too many are prone not to look beyond Government service or the legal profession as the only possible goal of their educational career. In these vocations there is obviously room for only a limited number, and the opportunities for an outstanding and successful career are definitely restricted. Yet around them lies a vast country full of natural resources and with a population as yet largely deprived of the advantages of technical and scientific training. In every direction there are sources of wealth and production waiting to be explored, waiting to be approved and ready to yield their secrets to the magic touch of knowledge. In this field it appears to me that the students of this College can play a notable part. They go forth from the College as pioneers of developments, of immense potential service to themselves and their Province. They can practise the improved methods of agriculture learnt here, and instruct by their example their neighbours who have not had the good fortune to participate in the technical education received by them. Agriculture is a science, and in agriculture, as in other branches of human knowledge, no finite stage has yet been reached. Denmark and other countries which have specialised in agricultural science have successfully demonstrated the vast and continuous improvements in agriculture which the spread of knowledge can produce, and the great increase in wealth which the diffusion of technical methods never fails to achieve. Let me impress these facts on the students of the College, and congratulate them on the great opportunities which their education in the Lyallpur Agricultural College has placed in their path."

A good monsoon in 1922, followed by plentiful winter rains.

119. The season of 1922-23 was a very favourable one characterised by a good monsoon and plentiful winter rain. The 1922 monsoon was a good one, though as usual the rainfall was heavier in the south-east and the montane and sub-montane districts than in the central and western

tracts. July rainfall was below normal, but good rains fell in August and the first half of September throughout the Province, except in parts of the west, where as usual the rainfall was very much lighter. Gales accompanied the rain and caused some damage to standing *kharif* crops, particularly cotton. The monsoon ended about the 22nd September, though some rain fell in the extreme north towards the close of the month. As compared with the average of previous years the rainfall was considerably heavier in the south-east and sub-montane districts. The *kharif* acreage in the south-east, where the crops are mainly dependent on rainfall, was consequently much above the average. In Hissar the staple crop of *bajra* covered nearly a million acres, or 161 per cent. of the normal. The September rains were followed by light showers in the first and second weeks of October which enabled good *rabi* sowings to be made. There was no further rain till the second and third weeks of December, but the rain received was adequate for *rabi* sowings and the maturing of *kharif* crops. The rains after Christmas 1922 were heavier than usual, beginning on the 9th January and continuing till the middle of March and being especially heavy in February. They were particularly useful for the unirrigated *rabi* crops, though the cloudy weather which accompanied them caused some damage to the wheat from rust. As usual some damage was caused in March by sporadic hailstorms. The dry weather in April was favourable for harvesting operations, but unceasing rain in May did considerable damage to straw and grain on the threshing floor in most districts. Canals ran well throughout the winter, though the Lower Bari Doab Canal was closed for a long time in February.

Relative importance of principal crops.

120. The following statement will give a general idea of the relative importance of the various crops :—

Area, Outturn and Value of Crops, 1922-23.

1	2	3			4			5			6	
		Sown area (*Million acres*).			Produce. (*Million tons*) (*bales cotton*).			Approximate value. *Crore Rupees* (a).			Value per acre. *Rupees* (b).	
Serial No.	Crop.	Irrigated.	Unirrigated.	Total.	Irrigated.	Unirrigated.	Total.	Irrigated.	Unirrigated.	Total.	Irrigated.	Unirrigated.
1	Wheat	5·0	4·6	9·6	2·0	1·2	3·2	21·7	12·3	34·0	43	27
2	Barley	·3	·8	1·1	·2	·2	·4	·9	1·3	2·2	27	16
3	Rice	·7	·2	·9	·4	·1	·5	3·6	·5	4·1	49	26
4	Maize	·5	·6	1·1	·2	·2	·4	1·8	1·5	3·3	35	26
5	Bajra	·4	2·7	3·1	·1	·3	·4	·8	2·7	3·5	20	10
6	Jowar	·2	·8	1·0	·0	·1	·1	·4	·7	1·1	19	10
7	Gram	1·1	4·3	5·4	·4	1·1	1·5	3·0	8·5	11·5	25	20
8	Oilseeds	·6	·9	1·5	·1	·1	·2	2·2	2·1	4·3	36	24
9	Sugar cane ...	·4	·1	·5	·4	0	·4	6·5	·6	7·1	150	94
10	Cotton	1·2	·1	1·3	1·1	·1	1·2	7·4	·4	7·8	64	38
11	Fodder crops ...	3·5	·7	4·2	..	..	...	7·5	3·4	10·9	30	20
	Total crops ...	12·9	16·8	29·7	4·9	3·4	8·3	55·8	34·0	89·8	..	...

(a) Column 3 × column 6.
(b) Yield per acre × harvest prices.

It should be remembered that while we have a very accurate knowledge of the acreage the estimate as to the yield of the various crops must be accepted with considerable hesitation. The principal exporting firms, for example, get fairly good results by assuming that the wheat outturn is 33 per cent. greater than the official estimate. The official returns are probably, however, not so much underestimated as that. An enquiry is being made into the whole question, including the possibility of determining the quantities of grain which are actually stocked in the Province. It is clear that the enquiry will be greatly facilitated by the knowledge of the quantities of grain exported. The Internal Trade Report has recently been abolished, but the question is now under consideration as to whether it cannot be con-

tinued in a simpler and cheaper form, which will enable all the necessary information to be obtained without so much expense. But the estimate of the value of outturn gives approximately accurate information as to the relative values of the principal crops. The above statement shews that the wheat crop is the most important, being worth about Rs. 34 crores. The gram crop comes next (the year being a very favourable one for this crop) and is worth Rs. 11¼ crores. The next important crops are cotton and sugarcane worth about Rs. 7 crores each. The value of sugarcane is especially remarkable in view of the small area (only half a million acres) devoted to its cultivation.

Steady rise in the irrigated area.

121. The only way of getting at a good estimate of the present harvest is to compare it with those of previous years. The total irrigated area has risen by 2 million acres in the last 8 years. Of this about half a million acres each has been put under wheat and fodder crops, respectively, and the other million acres has been devoted to other crops. The increase in the irrigated wheat acreage continued up to 1920-21, but since then the amount has remained stationary,* though the total irrigated area has continued to increase. Uncertainty as to the prospects of the wheat export trade may have acted to induce zamindars to devote their attention to other vaulable crops, such as cotton or sugarcane. The increase in the irrigated acreage under fodder crops may be attributed to the necessity for providing the extra fodder required for the cattle in the new irrigated areas in view of the restriction of their natural grazing grounds, for the extension of irrigation necessitates extra cattle for ploughing and milk for the new population, while it does away with large areas previously available for grazing. With the exception of wheat, sugarcane, fodder crops and cotton the irrigated areas of the various crops have remained practically stationary. The small acreage under sugarcane has steadily increased from ·30 to ·44 million acres as above noted. Though the area is small the intrinsic importance of the increase is great in view of the value of the crop. It is to be hoped that the time may come when with proper sugar-refining factories in the sugarcane-producing areas, the Punjab may become self-supporting in the production of sugar.

*See graph.

PRINCIPAL IRRIGATED CROPS.

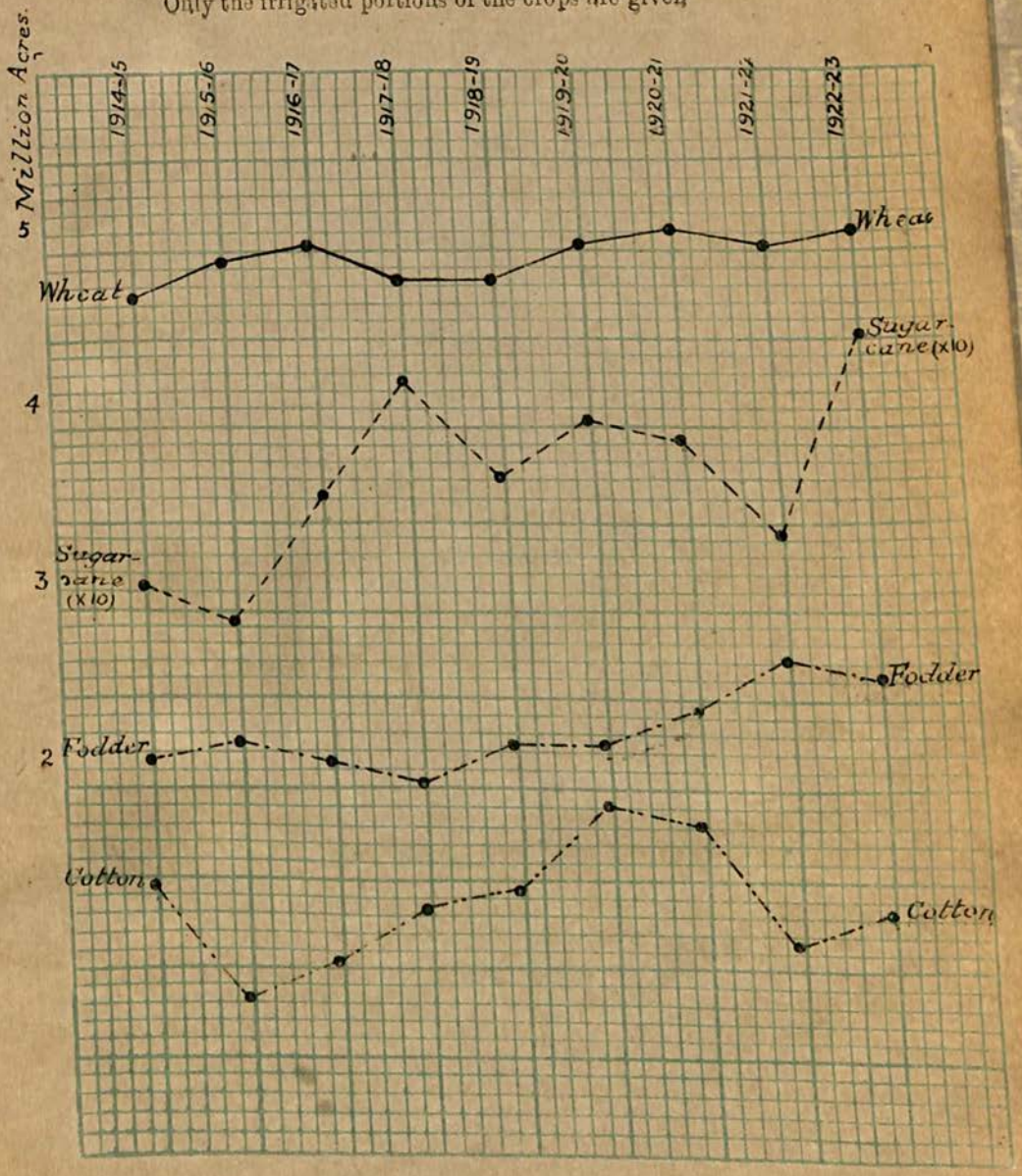
(Sugarcane is multiplied by 10.)

NOTE.—Slight steady increase in wheat, fodder and sugarcane.

Violent fluctuations in cotton due to varying fortunes of American cotton.

The fluctuations in sugarcane appear larger than they really are owing to the average being multiplied by 10.

Only the irrigated portions of the crops are given



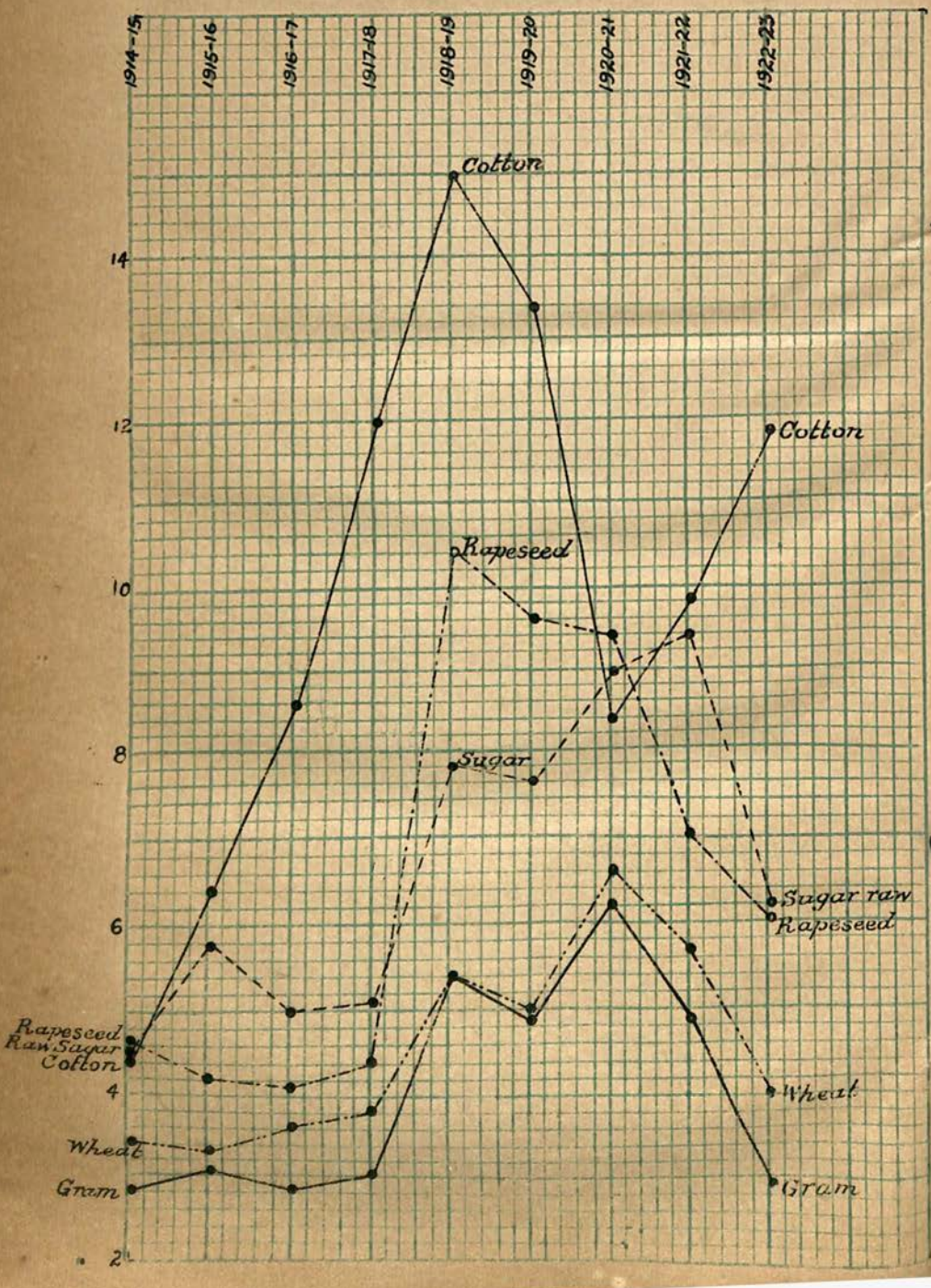
HARVEST PRICES.

Notes 1.—Prices generally rose to a maximum in 1920 and then fell.

2.—Prices of wheat and gram—principal food grains vary together, gram being always slightly less than wheat.

3.—Recent rise in price of cotton owing to the failure of American crop.

4.—Area under cotton varies rate with price.



Harvest prices.

122. The accompanying graph shews clearly that harvest prices tended to rise to a maximum at the end of the war and the post-war years of 1918-19 to 1920-21. Since then there has been a fall. The only exception to this is due to the recent failure of the American crop owing to the boll-weevil plague, which has dealt to American cotton a blow from which it can with difficulty recover. As far as deductions can be made from this diagram it may be inferred that cotton will be the most profitable crop to grow in the future, as the world's demand is likely to be maintained, and there should be no fear of the prices falling for some time. Wheat and gram have fallen heavily to very nearly pre-war prices. The export of wheat had entirely ceased* owing to the large Canadian crop anticipated this year. As the local market for sugar is unlimited, sugarcane should always prove remunerative for those who are prepared to work hard at it. Its price still remains above pre-war level. The demand for oil-seeds abroad still continues and the price is also above pre-war level. *Toria* should still, therefore, prove a profitable investment for growers.

Acreage under cotton varies with the price.

123. The acreage under cotton is slightly greater than that of last year. The early monsoon was favourable for late sowings, and the supply of canal water was good, but the main factor in the cotton acreage is the market price of cotton, and it is extraordinary how the total acreage under cotton varies with the price. Of the total area about two-thirds is under *desi* and one-third under American cotton. Owing to its longer and finer staple and other obvious advantages the proportion under American cotton steadily increased from its first introduction and reached a maximum in 1921-22 when the crops suffered severely at the beginning of the cold weather owing to a lack of sufficient water.† This misfortune greatly diminished its popularity with the result that this year (1922-23) the proportion of American cotton sown has been very much less. The figures given below shew clearly how great was the loss sustained, the total production of cleaned cotton in 1921-22 being only half that of the pre-

* This of course applies to the year ending 15th June 1923. Wheat export however revived during the latter half of the year 1923.

†See 1921-22 Report, I, 518, II, 41

ceding year, and the exports being consequently greatly diminished :—

Year.	Total production of cleaned cotton (in thousands of maunds).	Mill consumption from 1st October to 30th September (in thousands of maunds).	Net exports from 1st October to 30th September (in thousands of maunds).	Total of columns 3 and 4.	Balance columns 2—5.
1919-20 ...	3,316	39	2,507	2,546	+770
1920-21	2,856	39	2,295	2,334	+522
1921-22 ...	1,437	46	1,801	1,847	+410

Reasons for poor harvests of American 4 F. cotton in 1919 and 1921.

124. The variety of American cotton referred to above was denominated 4-F by the Punjab Agricultural Department to whom its introduction was due. In 1919 the lint from 4-F was trash on large areas, and again to a less extent in 1920. In 1921 the crop of lint was again as bad as in 1919. This led many people to believe that these cottons had cross-fertilized and had permanently deteriorated. The good quality of lint got from the 1922 crop of plants reared from seeds of these cottons, however, has shewn that that interpretation of the case was untenable. Put very briefly, the cause was insufficient water for the needs of the plants during the flowering and fruiting seasons. This again was due very greatly to high prices of wheat and *toria* which induced farmers to prepare a larger area of land for these crops in September, October and early November than previously, thus leaving a diminished supply of irrigation water for American cottons during the time they were flowering and developing their fibre. The trouble was of course most felt in the drier parts of the Province and *desi* cottons being more drought-resistant than Americans were less harmed. *Desis* were also very seriously affected however. During the investigation into the case, it was observed that even in the worst affected areas, there were plants yielding good American fibre where the crop had got plenty of water during the flowering and fruiting time, and were sheltered from desiccating winds by wind breaks. It is a simple matter to provide wind breaks of *arhar* (*Cajanus indicus*) or other suitable crops in the cotton fields, and the point to be noted is that good American lint can be grown in the Punjab in

any year provided the crop receives proper attention. In this connection, it is of interest to know, that 4-F cotton, which made the growing of staple cotton possible in the Punjab, has been selected by the Sindh Cotton Committee as the basis of cotton work in Sindh.

285-F. American cotton a still better variety than 4-F.

125. But the Agricultural Department is always looking out for improvements. Its method is to obtain new varieties not by breeding alone but mostly by selection. The actual varieties found in the fields are classified and then compared with each other by being planted in parallel adjacent strips. The new variety of American cotton denominated 285-F bids fair to oust 4-F from its place of pre-eminence. It is earlier, more drought resistant, and a higher yielder than 4-F. Three plants of 285-F will occupy the space required by two plants of 4-F. Owing to this and certain other peculiarities its good qualities have not yet been fully appreciated. But *zamindars* who know how to grow it are making large profits out of the difference in cash returns per acre between it and 4-F. Private firms are stocking seeds of it, and getting premiums for these from *zamindars* who have discovered its merits.

Mixing of American and *desi* cotton in the ginneries.

126. Where an adequate water-supply is not available it is still more profitable to grow *desi* cotton than American cotton, and the Department still continues to supply selected *desi* seeds to those who require them. It is clear therefore that *desi* and American cottons must both continue to be grown in the Punjab, and it is equally clear to those who are acquainted with cotton business in the Punjab that these cottons are not mixed to any great extent in the fields or by the growers, but are deliberately mixed in the ginneries, thereby causing economic loss to the growers whose cottons are not valued so high as they should be in the world's markets, and further loss not only to the growers but also to the whole Province and to India. The seeds of the two varieties are becoming mixed and the crop is in consequence deteriorating. Punjab-American cotton has been more used in Europe during the last two years than formerly owing to the shortage of the American crop. This is no small gain in helping to stabilise the cultivation of cottons of better staple, but the whole future of the crop

is threatened by malpractices which are growing rapidly and will increase if not promply dealt with.* The core of the trouble is that no accurate test is made of the economic value of cottons until they reach the spinning mill, and therefore cottons are sold largely on reputation. Consequently spinners in self defence must give a relatively much lower price for future consignments than pure Punjab-American cotton is really worth. This loss must finally come out of the farmers' pockets, and if the practice of mixing is persisted in, it may go far to wreck American cotton growing in the Punjab. In order to overcome this difficulty it is proposed to sell cotton on a certificate of quality. All the information required can be got from ordinary spinning mill machinery and simple laboratory tests.

Unsatisfactory conditions of wheat export.

127. In wheat also the new variety denominated Punjab 8-A has been selected, which gives an outturn of over two maunds greater than the previous selection of the Agricultural Department called Punjab 11. The question of wheat export still, however, gives rise to difficulties. Although India is one of the first class wheat exporting countries in the world (exporting about $\frac{3}{4}$th of a million tons of wheat per annum) it exports its wheats under the conditions of a tenth rate country. The quality and therefore the final value of a consignment of Indian wheat exported to London is fixed in London and not in India as it ought to be. It shares this distinction with such backward countries as China and the Persian Gulf. In advanced countries like Australia and the United States of America the quality of the wheat is fixed for both sellers and buyers in the country of origin. This eliminates one of the most uncertain factors of the sale of produce, and enables exporters to give the producer a higher price for his wheat with safety to themselves. At present the exporter has to keep a considerable margin (about 1 per cent.) of the value of wheat in hand against the possibility of an adverse decision from London. This margin would not be necessary if the final decision as to the quality of the wheat were made in India. The money that would be saved thus to growers comes to many lakhs of rupees per annum (over 8 lakhs per annum with wheat at Rs. 4 per maund).

*Speech of the Vice President at the Meeting of the Indian Central Cotton Committee held on 6th September 1923, reported in the *Indian Trade Journal.*

128. It was to meet these problems that the grain elevator at Lyallpur was constructed. In the year 1922-23 about 30,000 maunds of wheat was stored in the elevator, but owing to the fall in prices those who stored wheat must have lost money. The elevator cannot, however, be expected to pay as a mere store-house. It is fitted with a very perfect grain-cleaning machinery, which removes practically all the galls, which cause the earcockle disease in wheat. But the main use of the elevator must be in the export trade, as one of a system of elevators in the country. A single elevator in the Punjab could never pay, but by shipping consignments of properly dressed and graded wheats from it to London information could be obtained as to what premium can be expected from elevator wheats, and this is an important item when attempting to work out whether an elevator system will pay. Hand samples of elevator wheats were valued on the London market in 1921 at about annas 4 per maund higher than the best *mandi* wheats (choice white Karachi). But it is essential to have a series of commercial consignments of properly cleaned and graded wheats sent to London in order to obtain reliable information on the premium to be expected. To get this information a scheme is under consideration to export about 30,000 tons of first class colony wheats at the rate of about 2,500 tons per month, and in parcels of about 500 to 1,000 tons at a time to minimise risks of loss through fluctuations in market price.

The Lyallpur Grain Elevator.

129. The experiments in threshing wheat by machinery, interrupted by the War, were resumed by the Punjab Agricultural Department at Lyallpur about three years ago, when two portable self-driven threshers were brought out from England. The conclusion arrived at as the result of experience with these machines is that, however satisfactory they may be when working under European conditions, they are unsuited to the dry climate of the Punjab where the straw of ripe grain will never be as tough as it is in England. For threshing operations in the Punjab it is held that the simpler and less complicated the machine the better chance it has of being successfully used. Moreover, the Punjab *zamindar* demands that the machine selected should be able to turn out threshed straw in the form of *bhusa*.* Experts who have

Wheat threshing by machinery.

*Chaff used for fodder.

studied the experiments declare that of all the machines tried the full-size steam-driven machine producing *bhusa* still meets Punjab requirements better than any other.

Improved furnaces for the manufacture of gur.

130. As a sugarcane producing province, the Punjab ranks second in importance in India. The area annually under this crop varies between 4½ and 5 lakhs of acres. This represents some 18 per cent. of the total area under sugarcane in British India. It is generally considered to be one of the best paying crops which the average cultivator grows, and its area is only limited by the amount of water available for irrigation. This at least holds good for canal and well-irrigated lands. So far as water requirements are concerned, it makes greater demands than any other crop, requiring during its growth in districts of slight rainfall some 12 to 15 irrigations as against four for wheat and five or six for cotton. In the canal colonies of the Punjab, the average cultivator puts one acre per square* (of about 25 acres) of his land, under sugarcane. From this area he eventually gets about 30 maunds of *gur* (crude, unrefined sugar) which is the form in which he usually disposes of this crop. But with better varieties of cane which contain a higher percentage of juice, yields of 80 to 90 maunds of *gur* are being obtained. These varieties are just beginning to be taken up by the zamindar. The fuel which he will require to evaporate the cane juice will thus be proportionately greater than he at present needs with his local canes. These higher yielding canes cannot, indeed, produce sufficient fuel for the evaporation of their own juice. Moreover the destruction as fuel of the large mass of foliage provided by the crop is highly uneconomic, as these leaves contain a large part of the plant food which the crop has removed from the soil, and are therefore valuable as manure. These difficulties are being met by the Agricultural Department, which has designed furnaces whose simplicity of design renders them suitable for use by the ordinary zamindar, by means of which both the fuel consumption and the time expended in evaporation can be reduced by one half.†

Other activities of the Agricultural Department.

131. These are only examples of the work which is done by the Agricultural Department. Apart from this new agricultural implements are being designed suited to the country.

*See 1921-22 Report I. 323.

†Stewart and Kharak Singh in the *Agricultural Journal of India*, November 1923.

Well boring to increase water-supply in existing ordinary wells is becoming very popular, and the services of departmental borers are in very great demand. Proposals to put these operations on a self-supporting basis are now on foot. The possibilities of subsidiary industries, such as poultry, fruit growing and dairying are being investigated. Improved varieties of potatoes introduced by the Department in the Simla Hills gave a profit of Rs. 177 per acre over the local variety. These are a few instances of the way in which the Agricultural Department is developing the predominant industry of the Province.

The Co-operative Department and Rural Economics.

132. The Co-operative Department no longer confines itself to the provision of rural credit. It includes in its investigations all the problems that arise from the application of economics to agriculture. In collaboration with the Standing Board of Economic Enquiry (Rural Section) and the Agricultural and Veterinary Departments on the one hand and the actual cultivator on the other, it conducts investigations into all matters affecting the welfare of agriculturists. It endeavours to arrive at general principles and to apply them in practice. A generous attribute to the work done was paid by the President of the Indian Economic Association, which held its annual conference in Lahore in January 1923, when he congratulated Mr. Calvert* on having founded a school of Rural Economics in the Punjab.

Economic theory and co-operative practice.

133. The object of the Co-operative Department is indeed to examine the whole economic structure of the Province, to study the defects which retard economic progress, and to discover the factors which contribute to the comparatively low standard of prosperity. The mere reduction of indebtedness and the provision of cheap credit are not its objects, but its aim is the provision of sound, well controlled credit for productive purposes and the replacement of unproductive debt by productive borrowing. Mr. Darling† has conducted an enquiry into the rural debt of the Province and has arrived at the conclusion that it amounts to no less than 56 crores, nearly all of which is unproductive debt. Mr. Calvert* has pointed out that there is a great waste of female labour in the Province which is primarily

*Registrar, Co-operative Societies.

†Who left the Co-operative for the Income-Tax Department in 1921.

due to custom and prejudice. If there were in Western countries a movement aiming at the exclusion of female labour from all except purely domestic tasks, that movement would endanger the whole economic fabric, and if successful it would involve those countries in ruin. The fact that there are tribes in the Punjab which do not allow their womenfolk even to work in the fields is alone sufficient to explain their poverty. No European country could maintain its existing standard of living without the assistance derived from female labour. He has also drawn attention to the disadvantage of a judicial system under which loans advanced for productive agricultural purposes rank in the Courts on a par with loans advanced for extravagances like litigation, drink and costly marriages. The Co-operative Department is endeavouring to enable the indebted agriculturist to obtain relief through the Usurious Loans Act which has upto now remained practically a dead letter. In the case of Consolidation of Holdings investigation has already passed from the stage of theory to that of achievement ; and the work which has been done in uniting the scattered strips of cultivation of the land owners in a central Punjab village has attracted the attention of economists over all India.

Co-operation and Education.

134. These are only a few instances of the lines on which research proceeds. The co-operative literature of the world is ransacked in order to find new possibilities of co-operative practice, which may be applicable to the Punjab. Their practical value for this Province used to be discussed in annual Staff Refresher† courses which unfortunately had to be abandoned this year owing to limitation of funds. The extent to which these ideas have filtered down even to the uneducated co-operator is sufficiently demonstrated by the intelligence shown by the latter in Society meetings. The suggestions made have always a practical value and the carping criticism that too often characterises more educated bodies is conspicuous by its absence. The present system of Education has been mainly devised to suit urban requirements and the Co-operative and Educational Departments are now collaborating with a view to evolving a system more

*In his 'Wealth and Welfare of the Punjab" which has revolutionised Indian economic thought on rural problems.

†So called because they "refreshed" the staff's knowledge of Co-operative theory and practice.

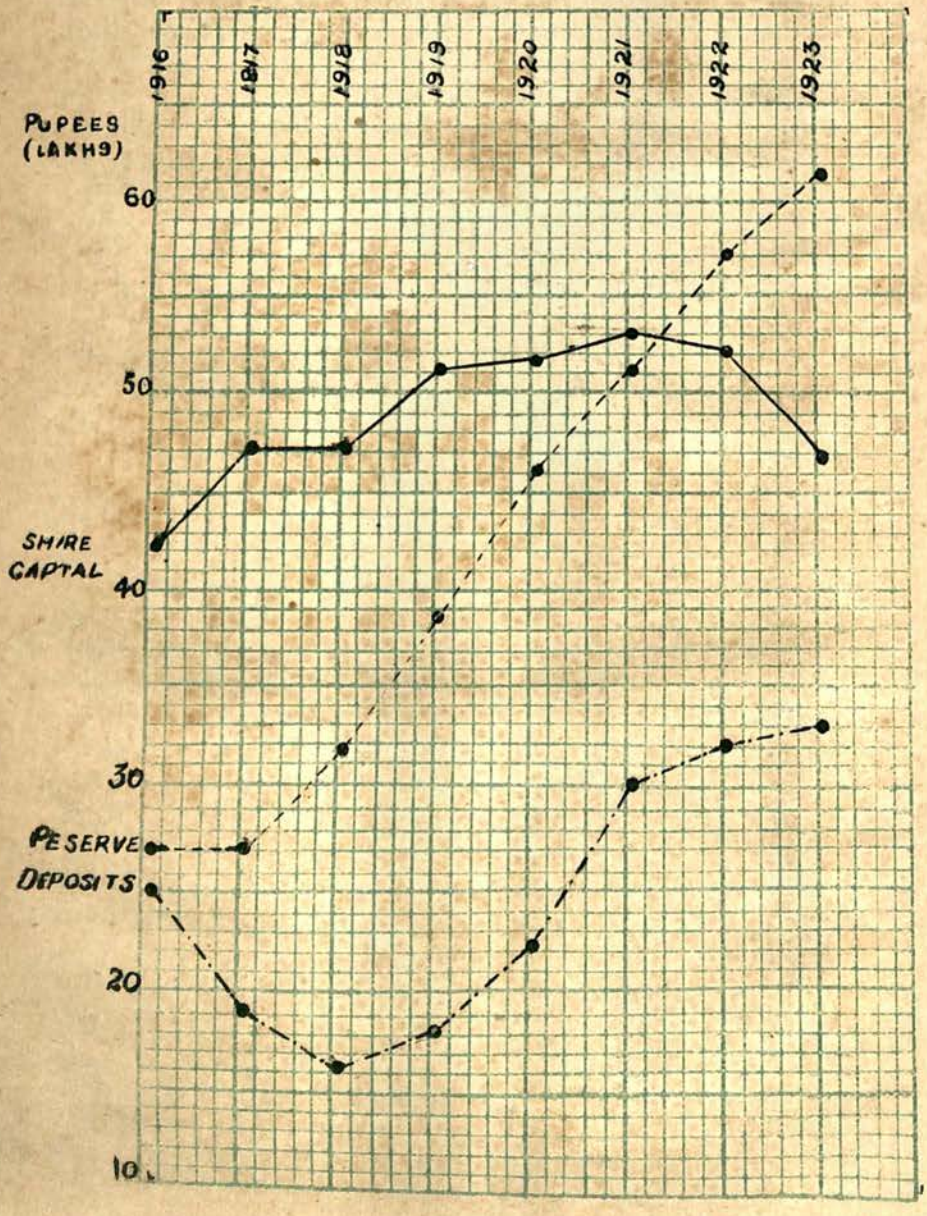
Growth of Thrift.

Showing share Capital Reserve and Deposits in Agricultural Societies from 1916-1923.

Note 1.—Deposits declined in 1918 at the crisis of the great War owing to counter attraction of war loan ; rose rapidly in succeeding years ; nearly stationary during last two years owing to lack of funds for extending movement.

2.—Steady growth of Reserve Funds.

3.—Rise in share capital as movement extended ; recent decline owing to repayments after 10 years.



suited to the needs of agriculturists. Agriculturists are loth to send their children to a school, which will transform them from healthy lads into luxurious *babus*, but the grown-up agriculturist realizes only too well the handicap which he suffers from illiteracy. Adult education for agriculturists would have the advantage of removing the illiteracy without rendering them scholars useless for work in the field. On its own initiative the Co-operative Department has made a beginning in this matter, and the interest shown by the Educational Department should do much to facilitate the spread of the experiment (*para.* 73).

Co-operation and Thrift.

135. Co-operation was originally introduced into India in order to provide capital for agriculture, but it soon became clear that what was wanted was not so much capital as lessons in the wise use of it. There are few things more important for the economic welfare of the masses than the encouragement of thrift and still fewer which receive so little attention. Co-operative Societies now place the encouragement of thrift amongst their objects and render valuable service by the collection of small shares, by receiving deposits, and by attempting to induce members to make compulsory deposits for special purposes. The success which has been obtained is shown by the accompanying graph, which relates only to village societies and takes no account of the amounts which have been accumulated by the moneyed classes in Central Banks. These deposits consist almost entirely of small sums given by a large number of individuals. The rate of increase during the last two years has been somewhat less than previously owing to the restriction in activities which limitation of funds has necessitated. The recent decline in share capital is due to the fact that many societies have now come under the rule by which share capital is returnable after ten years, but the steady increase in the reserve fund is itself a sufficient testimony both to the growing financial stability of the societies and to a form of thrift which is none the less real, because it is hardly felt by those who practise it. But for those persons who do not wish to borrow and are not attracted by any of the various types in which thrift is a secondary object, the special thrift and saving society is being organized. Such societies are classed as non-agricultural, which means that the members are not dependent upon argiculture: most are

organised amongst *patwaris*,* or the tahsil or District Board staff. Members are on the increase and the monthly contribution decided upon at the start is being raised. With a little help from Government in making the deductions from the monthly pay as is done in the case of Provident Fund contributions, these societies should prove very popular among minor officials.

Recent difficulties.

136. The following statement will give a general idea of the year's working :—

Class.	Societies on 31st July.			Members on 31st July. (Thousands)			Working capital. (Lakhs)		
	1921.	1922.	1923.	1921.	1922.	1923.	1921.	1922.	1923.
Central ...	98	110	111	9	10	12	1,31	1,66	1,89
Agricultural ...	7,874	8,620	8,853	2,13	2,39	2,23	2,18	2,50	2,64
Non-Agricultural ...	303	401	441	15	18	19	9	12	17
Central non-credit ...	140	137	123	2	2	2	3	3	2
Total ...	8,415	9,268	9,530	2,39	2,69	2,56	3,61	4,31	4,72

The last three years have been marked by many discouraging features ; the financial condition of the Province has served to prevent the allotment of funds sufficient to maintain an adequate staff. In the field, work has been seriously affected by the severe drought and fodder famine of 1920-21. This ended in good rains leading to a big demand for loans ; but the succeeding cotton crop proved disappointing and when a good *rabi* was harvested the prohibition of export served to restrict buying by the big dealers. Prices fell sharply and much of the grain was left unsold and almost unsaleable in the hands of the cultivators. During the year 1922-23 there was at one time promise of an excellent spring harvest, but untimely rain, rust, wide-spread hailstorms, and a further fall in prices combined to cause serious economic trouble to the cultivating classes. In 1922 many cultivators held up their wheat partly in the hope of getting better prices, and partly because, in a falling market, there

*1921-22 Report I, 2 9.

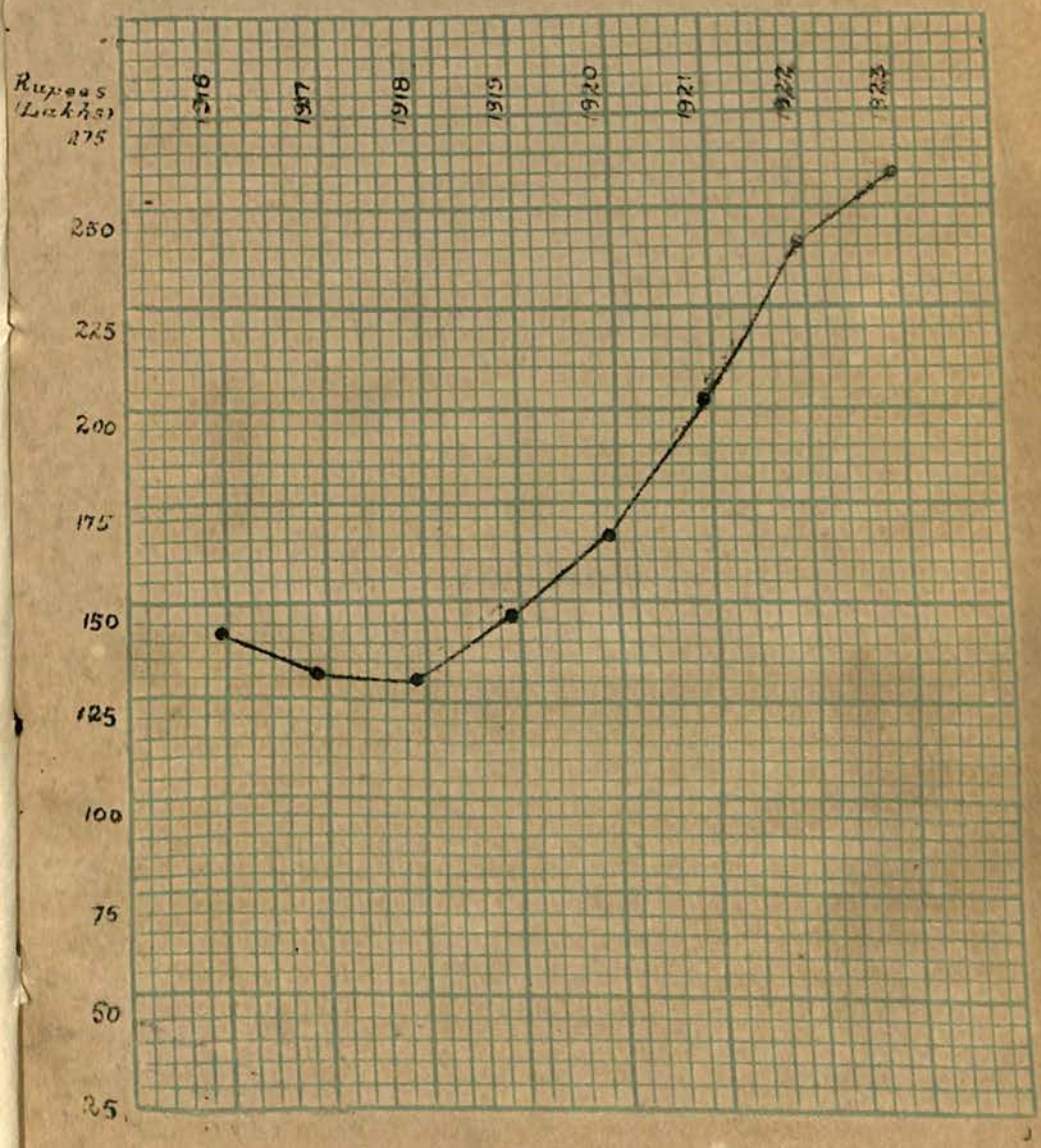
CO-OPERATION.

Agricultural Societies.

Working Capital.

Composed of (1) deposits (2) shares; (3) reserve and profits; (4) loans from Central Banks.

Note.—Stationary during the war; rapid increase subsequently; rate of increase diminished last year owing to lack of funds for extending movement.



were few buyers. In 1923 these conditions were accentuated and wheat was almost unsaleable as big dealers would only buy for immediate re-sale and not for storage. Prices of food-grains fell to almost pre-War level but those of cloth and other necessaries of a cultivator's existence did not decline in proportion.

Measures taken to meet difficulties.

137. Consequently except in a few outlying districts attention was devoted rather to the improvement and consolidation of existing societies than to the starting of new ones. In view of restricted Government support much of the junior inspecting staff is now paid by co-operators themselves through the Punjab Co-operative Union, a body which represents all co-operators of the Province. Owing to its enthusiasm for extension this body got heavily into debt, but restricted activities and a voluntary subscription, amounting to half a lakh, enabled it to balance its budget. An additional source of income was also obtained from the interest on balances at credit after the liquidation of societies which have been closed.

Government aid to Co-operation. The Jhang Mortgage Bank.

138. The Co-operative Department, this great agency for the regeneration of the rural class, is carried on at a cost to Government of only Rs. $4\frac{1}{4}$ lakhs a year, little more than half the amount spent on the development of industries (*para.* 87). Agriculturists are indeed apt to compare their own self-help with the generous grants made for sanitary purposes, water-supply and other objects in urban areas, and inquire why the agriculturist alone is singled out for the policy of "no Government aid". Government has, however, made an advance of about Rs. 1 lakh to finance the Jhang Mortgage Bank, a tiny experiment in a branch of rural credit which has hardly yet been touched by Co-operation in India. The ordinary village society is only in a position to finance loans for ordinary agricultural operations, which can be repaid within a year or two ; but for the repayment of the heavy mortgage debt of the Province, and the financing of big schemes of agricultural expansion, longer term credits are required : and it is difficult to see how the money can be available without an advance from Government similar to that which has been made in other countries where mortgage banks have been instituted.

Co-operative Capital.

139. The financial position of the movement can be guaged from the accompanying statement :—

Co-operative Capital—(Rs. lakhs).

	Deposits.	Shares.	Reserve and profits.	Total.
Primary Societies	41	5)	69	1,60
Secondary Societies (Central Banks, &c.)	1,09	7	7	1,23
Total ...	1 50	57	76	2,83

Thus the co-operative movement is backed by a total capital of nearly Rs. 3 crores : 10 per cent. of this or Rs. 30 lakhs, is in fluid resources immediately available on demand ; half in cash and the other half in Government paper, on which a cash advance can always be obtained from the Imperial Bank. These figures show what progress has been made towards placing the movement on a sound financial basis. The Central Banks are steadily gaining the confidence of the investing public. They are year by year becoming stronger by the building up of reserves, to which the new rule of limiting dividends to 10 per cent. should contribute. The courageous action of the Lahore Central Bank in writing off Rs. 23,000 from its assets owing to depreciation in the value of investments shews what care is taken that balance sheets shall accurately represent the financial position of these institutions.

Proposed Provincial Bank.

140. The increase in the capital of both village societies and Central Banks has brought a new problem into existence. Some 800 societies now provide their own capital and some Central Banks have more money than is necessary for financing the societies of their districts. These surplus funds are allotted by the Co-operative Union to less prosperous Central Banks. The method is a clumsy one and it is to put it on a more systematic footing than a Provincial Co-operative Bank has been proposed. By pooling their fluid resources in the Provincial Bank, Central Banks will be in a position to obtain more credit than at present. The Provincial Bank will also be in a position to deal directly with the headquarters of the Imperial Bank, into which it can pour its surplus resources when they are not wanted, and from which it can draw in time of need. By the issue of debentures it may be also in a position to finance long term credit and so to fulfil the functions of the Mortgage Bank which is so urgently required (*para.* 138).

Co-operative Marketing: financial problems.

141. The Lyallpur Co-operative Commission Sale Shops are attempting to solve a problem which is assuming world-wide importance. Many of the difficulties they have had to face have been met with in other countries, and the main principles underlying their working are governed by the same fundamental economic laws as obtain elsewhere. The problem set for them to solve is that of marketing. The main difficulty to be overcome is one of finance. Some form of financial arrangement is inevitable owing to the time between the delivery by the farmer and the recovery of the price by the retailer. But in Lyallpur the problem is still further complicated by the fact that many of the zamindars are heavily indebted. The debts incurred are almost entirely non-productive and are heaviest in the most prosperous districts, in which money-lenders congregate as flies over jam. But the debt is the result and not the cause of prosperity. The indebtedness of the small-holder to the village money-lender is being steadily removed by the local village co-operative society. But the experience of the Commission Shops is disclosing that indebtedness is not confined to the small-holder. Big land-owners, with every outward sign of prosperity, are often heavily indebted to the *ahrtis* (commission agents) of the *mandi* (markets), who spare no pains to entangle them into permanent indebtedness. This indebtedness is generally unsuspected by the outside world, but its existence would explain the neglect of many of the larger zamindars to assist the co-operative movement. A debtor is the slave of his creditor, he is no longer a free man.

Advance on grain.

142. An important result of his indebtedness was the control by the *ahrti* of the crop supply. The big landholders, who borrowed from him direct, were compelled to bring their crops to him after harvesting. The small-holders, who dealt with the local moneylender, brought their crops to the latter, and he forwarded them on to the *ahrti* on whom he also was dependent. The value of the crops harvested was credited to the zamindars at the price then prevailing, a price which was necessarily low owing to all the produce being thrown on the market at the same time. Once the produce had all come in the price rose, and the *ahrti* reaped a rich reward. It was, therefore, discovered that it was useless to tackle many of

the finer and more interesting problems of marketing until this elementary, though formidable, difficulty had been removed. The question was handled by the local Co-operative Inspectors and the Lyallpur Central Co-operative Bank with characteristic courage and resource. One of the zamindars' chief difficulties lay in the necessity for immediate sale of their produce at artificially low prices. This was met by the Commission Shops arranging to advance 75 per cent. of its value on all grain brought in whether sold or not. When the zamindar wished to store, the shop made arrangements for his doing so. Such advances were fully secured by the produce held, and the Central Bank could safely make advances to the Commission Shops on the grain held by them for the zamindars. The success of these institutions may be judged from the fact that while sales totalled Rs. 4 lakhs in 1921-22, in 1922-23 they amounted to no less than Rs. 29½ lakhs.

Co-operative sale: the culmination of Co-operative credit.

143. Co-operative sale is, therefore, the necessary culmination of co-operative credit. To repay his loans to the village credit society the zamindar must sell his produce, and, without co-operative sale, he is compelled to resort to the only alternative, a broker, who is also a moneylender. Thus the village society does not completely relieve its clients. Of great, though less importance, is the financial simplicity introduced by the shops which can relieve the village societies of half their work and responsibility. It is therefore hardly too much to say that while the village credit society is the base, the sale shop is the superstructure of the co-operative edifice.

Consolidation of holdings.

144. The movement for the consolidation of fragmented holdings* is gaining strength and popularity. Generally speaking, propaganda work has been confined to the Central Punjab, where fragmentation has become a serious evil, particularly in the Jullundur District. There are, however, a few scattered cases of consolidation elsewhere. The chief progress has, however, been made in the central districts of Gurdaspur, Hoshiarpur and Jullundur. In Gurdaspur seven new societies were registered during the year 1922-23; in these, 468 acres comprising 555 blocks have been consolidated into 96 blocks, the average area per block has thus

*See 1921-22 Report I, 235 foll.

increased from ·84 acres to 4·87 acres. Some interesting results may be mentioned : in one village, consolidated last year, the rent of the area treated is reported to have risen from Rs. 500 to Rs. 1,000. In two other villages rents on the consolidated areas are said to have risen 25 per cent. Eight new wells have been sunk in three villages ; in one, 62 acres of old waste has come under cultivation as a result of re-adjustment ; in another a long boundary dispute between Sikhs and Mussalmans has been settled by so consolidating the land as to give each party a separate parcel. In a village in the Jullundur district one owner who previously had his land in 200 different places, has now consolidated it into one block. It is only when the details are examined that the immense burden imposed upon these small cultivators by fragmentation is realised. The task of trying to administer an agricultural holding scattered in even 40 different places must be beyond the limit of efficient accomplishment. In the Jullundur District 47 new wells have been sunk in the consolidated area : the Central Bank, Jullundur, and Madar Credit Union have sanctioned a proposal to lend money for these wells at a reduced rate of interest, and already about Rs. 20,000 have been advanced. It is claimed that as a result of repartition, 1,750 acres of waste has been brought under cultivation ; this was previously in tiny scattered plots unsuitable for ploughing. Another gain is that by re-adjustment an owner's land can be collected round his well, so that the actual area irrigated is increased. Wherever possible, access has been given to wells and fields by pathways, so as to avoid quarrels. To prevent unnecessary delay in mutation of repartition, revenue officers have been directed to give immediate attention to mutations embodying schemes of consolidation. A more serious difficulty arises from the law of succession to occupancy rights embodied in section 59 of the Tenancy Act : the proviso to clause (*c*) requires that in order to succeed in the case dealt with it must be proved that the common ancestor occupied the land. Obviously, a break of occupancy due to consolidation would deprive male collateral relatives, descended from the common ancestor, of the succession. Legislation will probably be needed to remove this obstacle.

The Punjab Cattle Census of 1923.

145. Valuable information as to the condition of Punjab cattle was obtained from the cattle census held in February 1923. The practice of holding a quinquennial cattle census

had prevailed in the Punjab since 1898, but scientific interest in the matter was greatly stimulated by certain resolutions passed by he General Assembly of the International Institute of Agriculture at Rome in 1913. Attention was drawn to the value of a standardised classification and this led the Government of India to formulate the principles under which an all-India cattle census could be undertaken every five years. It was intended that the various provincial censuses should synchronise, but the War led to some dislocation. Previous Punjab censuses had been held in 1904, 1909, 1914, but the next one did not take place till 1920. The circumstances of that year were, however, exceptional. A series of bad seasons, combined with large exports for military purposes, had led to a considerable reduction in numbers. It was thought desirable to repeat the census when more normal conditions had supervened, and accordingly the present census was held in February 1923.

Enumeration mainly carried out by Land Revenue Staff.

146. Except in the case of large towns, where special arrangements were made by Deputy Commissioners, the census was carried out by *patwaris*,* under the supervision of the superior Land Revenue staff. This agency is well fitted for the purpose, but the carrying out of a census of this kind is a complicated matter, and the meticulous accuracy of a human population census cannot be expected. But for the purpose for which the census was intended, *viz.*, the investigation of the broad statistical tendencies of the cattle population, the results are more than sufficiently accurate.

The quantity of cattle adequate.

147. A numerical comparison between the recent and previous cattle censuses may be obtained from the following abstract :—

(Millions).

Year	Cows.	Cow-buffaloes.	Bulls, bullocks.	Male buffaloes.	Young stock.	Total cattle.	Sheep.	Goats.
1904	3·0	1·9	4·1	·6	3·7	13·3	4·1	5·5
1909	3·4	2·2	4·2	·6	3·8	14 2	4·6	4 2
1914	3·7	2·6	4·6	·6	4·0	15·5	4·7	4·4
1920†	3·0	2·7	4·3	·5	3·8	14·3	4·0	3·1
1923†	3·0	2·9	4 5	·5	4·0	1+9	4·1	4·3

*See 1921-22 Report I, 269.

†The cattle figures for 1920 and 1923 have been modified so as to make the proportion of young stock in those years similar to that of previous years. This is explained fully in paragraph 3 of the Cattle Census Report.

The figures do not justify any pessimism as to the numbers of the cattle population. The increase between 1904 and 1914 coincides with the increased demand for milking and plough cattle created by the development of the Canal Colonies. The check in 1920 was, as has been already explained (*para.* 145), due to exceptional causes, and the last census indicates a rally. The increased demand for milk has led to a steady increase in the number of cow-buffaloes, an increase which continued even during the unfavourable census of 1920. The diminution in the number of bullocks in 1920 was almost negligible, and 1923 has brought them well up to near the 1914 maximum. The diminution in the number of cows might appear more serious, but as will be shewn there is no reason to suppose that the numbers are inadequate for breeding bullocks for the plough. Their value as milk producers is at present only secondary, and the increase in the number of cow-buffaloes would seem to secure the milk supply. There would be no cause for alarm as to the quantity of cattle, if it could be assumed that the quality was up to the standard required.

Desirability of some estimate of quality.

148. But this is a large assumption. The gradual advance of canal irrigation into the grazing-grounds of the best breeding stocks ; the draining away of the best cows and cow-buffaloes to provide milk for the towns, while inferior animals are left to carry on the breed ; the existence of large numbers of half-starved cattle, which compete successfully with the more useful animals for the ever diminishing supply of available fodder ; the fact that cattle breeding is not a commercial proposition either actually, and still less when compared with the large profits to be obtained from agriculture in the strict sense of the word : all these causes have tended to retard progress. It is indeed a matter of common observation that a large majority of the cows in existence are neither good milkers nor good breeders, and that a large number of bullocks are not efficient ploughers. Lack of quality rather than quantity seems to be the chief danger at the present time. Consequently a census which makes no distinction between cows fit for milking purposes, and cows which can only suckle their young, and between bullocks fit for ploughing and other bullocks, fails to deal with one of the most important problems which faces the agriculturist of the Punjab to-day.

Punjab cattle and ploughs.

149. The main object of Punjab cattle breeding is the plough bullock, and if numbers alone were considered there would be little to fear. The average sown area for the last ten years is 24 million acres, and it is necessary that the number of bullocks (and male buffaloes) should be maintained at the quantity necessary to plough this. The average area is taken rather than the area sown in particular years as the number of plough cattle must be maintained up to the average standard. Clearly were the number of bullocks reduced proportionately to the sown area in a bad season there would be insufficient for the next year's ploughing. The following figures illustrate the position :—

Year.	Bullocks and male buffaloes (millions).	Number per 100 acres, average area.	Ploughs (millions).	Ploughs per 100 acres
1909	4·9	20	2·2	9
1914	5·1	21	2·3	10
1920	4·8	20	2·2	9
1923	5·0	21	2·3	10

Thus for every ten acres there is a yoke of bullocks and about one plough, which would on the face of it be more than ample. But an indefinite number of bullocks must be deducted as not really up to useful work. Moreover, the size of bullocks varies greatly, in the hills they are hardly larger than goats. Bullocks and male buffaloes are also used for transport purposes, and the ·3 million carts in the Province require ·6 million cattle to pull them. But such animals are generally used for ploughing also and need not therefore be subtracted from the plough power of the Province. As far as numbers go, the plough power is therefore adequate. Camels are also used for ploughing in some of the sandy tracts of the Province, but hardly sufficiently to affect the figures.

Supply of bullocks.

150. The diminishing number of cows combined with the slow increase in the number of cow-buffaloes illustrates an increasing tendency to purchase bullocks from the well-known breeding areas

rather than to breed them at home. As grazing grounds get more restricted with the extension of canal irrigation, it is more and more found profitable to keep cow-buffaloes, which are better stall feeders than cows, for milk, and to abandon the use of the cow which is then mainly used for bullock breeding. The resultant tendency to specialization in breeding obviously throws an increasing strain on the good breeding grounds to maintain an increased supply, at a time when the size of even these specialized areas is being diminished.

The Veterinary Department. Hariana and Dhanni Cattle-breeding Schemes.

151. At an annual cost of 14 lakhs, of which 8 lakhs are provided by the Province and 6 lakhs by local bodies, the Veterinary Department is tackling these problems with courage and success. Under a scheme to maintain and improve the valuable Hariana and Dhanni breeds of cattle Government will give grants for selected bulls, on condition that the District Boards of the districts to which they are sent grant an equal amount. This scheme is the first serious effort towards the development of the Hariana tract as a cattle breeding centre ; and as a business proposition should commend itself to the attention of Government. The new irrigation works now in course of construction will increase considerably the area of cultivable land in the Province for which plough bullocks will be required in large numbers. The importance therefore of developing the Dhanni and Hariana cattle breeding tracts to meet the requirements of the rest of the Province will readily be admitted. Since the majority of the present irrigated districts are not by any means self-supporting as regards the plough bullocks they need, they are dependent on such tracts for the superior type of bullocks which are available there. This source of supply needs therefore to be encouraged in localities where the cattle breeding industry can for economical reasons prove most remunerative to breeders.

Cattle-breeding Societies and grantees.

152. The starting of Co-operative Cattle Breeding Societies by the Co-operative Department in the Rawalpindi Division is particularly opportune and should be of considerable help towards the success of the scheme in that area. There are now 19 cattle breeding societies with about 700 animals purchased from Hissar. Members bind themselves to confine covering to bulls selected for their pedigree qualities. Steps

are also being taken to restore the valuable milk producing breed of the Montgomery District by leasing Government land to grantees on cattle breeding terms. When the scheme has made some progress it should be possible to organise a big milk supply out of this area. Other herds are also being brought under the milk test, and it is hoped that with proper care the Hissar breed may improve in the matter of milk yield without any danger of reducing the value of the progeny as plough animals. Pedigree herds of the Hissar breed are being maintained in the Government Cattle Farm, Hissar, and on the three Hissar cattle grants in the Lower Bari Doab Canal Colony. Their main function is to provide pedigree bulls for distribution in the districts for breeding purposes. Two hundred and fifty-six bulls have been supplied this year at concession rates to the districts.

The Hissar Cattle Farm.

153. The Hissar breed is being developed by the Hissar Cattle Farm whose main function is to provide high class bulls of this breed to the people of the Province. It is the only source from which bulls can be obtained, which will maintain or improve this important breed of cattle. The farm also supplies a few Montgomery bulls to District Boards; its surplus heifers to cattle-breeding societies, private breeders and Indian States ; donkey stallions to District Boards for breeding purposes ; merino rams for the improvement of sheep breeding ; bullocks and mules to the Military Department and others. Its area is 40,000 acres, of which only 2,000 acres are irrigated. Every effort is made to maintain a sufficient fodder reserve against famine. In December 1923, reserve fodder amounted to well over a lakh of maunds and is larger now than at any time since the Civil Veterinary Department took the Farm over in 1899.

Buffaloes and buffalo-breeding.

154. The number of male buffaloes in the Province remains nearly constant. Practically only those zamindars use male buffaloes who find it too costly to purchase bullocks. The sluggish nature of the buffalo, its inability to endure heat, and its desire for water, all render it extremely unsuitable for a hot dry climate like that of the Punjab. Against this, however, must be set the fact that it is docile, intelligent, and, if not feeling the heat, a steady worker. Possibly a hardier type might be evolved by importing bulls from the drier tracts. But the possibilities of the dual-purpose buffalo are sufficiently

remote to render the expenditure of energy in this direction inadvisable. Most authorities hold that the cow is a more profitable dual-purpose animal for official endeavour. Moreover, the popularity of the cow-buffalo alone will secure that buffalo breeding is not neglected. Actually the present tendency seems to be towards the cow-buffalo for milk, together with bullocks of the well-known breeds for ploughing, male buffoloes being used as a stop-gap. Religious feelings are not aroused so strongly by the buffalo as by the ox, and consequently male buffaloes can be easier made away with than steers. Selective breeding of buffaloes is therefore easier for religious zamindars, who can keep the best stock for breeding purposes, and eliminate the rest. For all these reasons there seems no such reason to anticipate deterioration in the breed of buffaloes.

Advantages of the cow-buffalo as a milk producer.

155. The popularity of the cow-buffalo is greatest in the canal colonies, and to a less degree in all districts where grazing is limited, and the value of the land for other purposes is so great as to render its allocation to fodder purposes unprofitable. It stands the stall-feeding, which is unavoidable in highly cultivated areas, better than the cow. The ratio of milk produced to fodder consumed is considerably greater than that of the cow. The milk is moreover richer in fat, and therefore will stand adulteration better, a quality which unfortunately gives it a better sale value. As a milk producer only, therefore, the cow-buffalo is a better commercial proposition than the cow.

Rural milk supply fairly adequate.

156. On the whole the rural milk supply is fairly satisfactory, and the average yield per annum of good Punjab breeds such as Hansi or Montgomery (2,500 lbs., *i.e.*, an average of $3\frac{1}{2}$ seers daily throughout the year) and of south-east Punjab buffaloes (4,000 lbs. or $5\frac{1}{2}$ seers daily) compares favourably with that of the United Provinces breeds, Mewati (2,000 lbs.), Kherigarh (500 lbs.), and buffaloes (2,500 lbs.). But the corresponding yield of average English cattle (Shorthorn or Friesian), *viz.*, 7,200 lbs. or 10 seers daily causes food for thought. The larger annual output of English cattle is due to a longer period of lactation as well as a larger daily supply. There is no doubt that cows and buffaloes in India give far less milk than is given by any cow whose existence would be tolerated in Europe. In Europe that cow is

selected which will give the maximum milk for a given amount of fodder. In India the cow is generally given the minimum quantity of fodder, which will enable it to give a minimum quantity of milk.

Present system of urban milk supply.

157. The rural milk supply is nevertheless fairly satisfactory. But the very prosperity of the agricultural classes is making it more and more difficult for an adequate supply to be provided for the towns. For these the present system is that provided by *gwalas*. They maintain their herds within the town precincts, where they purchase fodder for their maintenance, or drive them to the nearest grazing-grounds often causing damage to the land through which they pass. They are generally in debt to the local *bania*, and consequently are not in a position to feed their cattle well. They have just enough to keep themselves and the cattle alive, and the *bania* appropriates the rest. The advantage of good finance is apparent from the change produced in the milk production of the *gwalas* of Lyallpur after forming themselves into a Co-operative Society. Their cattle were better fed, and the quality and outturn of milk were improved. No scheme for urban milk supply will be adequate which does not take account of the financial aspect.

Disadvantages of present system.

158. The present methods are, however, fairly satisfactory in relatively small towns like Lyallpur. In large cities like Lahore and Amritsar, the system breaks down completely. By keeping a large number of animals in a densely populated area sanitary problems are rendered more difficult, and there is a danger of milk contamination by pathogenic bacteria. Fodder has to be purchased at prices enhanced not only by the cost of transport and storage, but often by the artificial addition of octroi. These expenses drive up the price of milk and often force the *gwala* to feed his cattle on foul horse litter. The animals are kept in unnatural conditions which react unfavourably on their health. It is unprofitable to rear the calves born under these conditions, and they are often released as Brahmini bulls to feed at the public expense, and to beget in sorrow a still more unprofitable offspring. Much of the manure produced by the city herds remains to poison the city instead of enriching the fields where it is needed, thus gradually depriving the land of necessary chemical constituents. The limited supply of

milk is acquired by the richer inhabitants, leaving the children of the poor to starve without a necessary article of diet. Owing to the insanitary conditions at least 25 per cent. of the cows in the city only give enough milk to rear their calf, and another 30 per cent. will only give 1 to 1½ seers a day besides rearing their calf.

Transport organisation necessary.

159. This kind of system was once in force in England, but disappeared as the result of effective arrangements for the transport of milk. The high price of milk in cities shews that there is a large demand for milk, primarily for quantity, and only secondarily for quality. Not infrequently milk will be selling at 3-4 seers in the city, when a few miles outside it will fetch from 8 to even 12 seers only. Organization of transport will alone solve this problem, and there is ample margin between the cost in the districts within transportable distance and the cost in the city to cover the cost of organized transport. There is no reason why milk from the fodder areas should not be pasteurised and sent into the big cities by refrigerating vans in the 'milk train,' or by refrigerating motor vans on the road. It is all a matter of organization, which offer ample opportunity to the energy and capacity of the great reformed municipalities. It should also provide the *zamindar* with a valuable side industry as a supplement to crop-growing. One of the weak points of Indian, as compared with European, agriculture is the lack of side industries to fill up the spare time of the agriculturist.

Cattle-breeding as a subsidiary industry.

160. Cattle owners are, however, often indebted, and tend to regard their stock rather as security for advances from the money-lender than as a capital from which they can make profits by breeding. The use of cattle as a form of moveable capital is in fact a characteristic of all primitive communities, a fact to which the kindred origin of the words "cattle" and "capital," and the derivation of the word "pecuniary" bear testimony.* The breeding and rearing of live-stock would form an admirable subsidiary industry to the agriculture of those parts, providing an occupation and income in slack seasons, and returning to the soil the manure necessary to keep in a high state of fertility. The great English pedigree stocks have owed much

*See Marshall's Industry and Trade, Appendix B.

to the social prestige which has, since the eighteenth century, attached to the possession of prize animals, and advance along these lines might provide an interesting occupation for the large land-owners of suitable areas in the Punjab.

The fodder question.

161. But the question of breeding largely resolves itself into one of fodder. The old grazing areas are largely disappearing as the result of the extension of cultivation, mainly due to canal irrigation, but also noticeable in well-irrigated, or even *barani* tracts. The following figures are suggestive :—

District.	Total cattle (1923) (lakhs).	Area culturable but not cultivated (grazing) (lakhs acres).	Number of cattle per acre.
Hissar ..	4·9	4·1	1·2
Rohtak ..	5·7	1·7	3·3
Karnal ..	4·6	5·7	1·3
Jullundur ..	4·8	1·2	4·0
Sialkot ..	5·4	1·8	2·9
Punjab ..	1·51	1·74	0·9
United Provinces ..	..	..	2·1
England ..	..	..	1·3

On the whole the situation appears better than that of the United Provinces, though much of the culturable area of the Punjab is only of grazing value after rains. But in congested districts like Jullundur the fodder question is already acute, a fact which appears only too clearly when the figures are compared with those of England, and the quality of English grazing is compared with that of such districts on the average all the year round. It is only by the encouragement of fodder crops that the effects of the continual restriction of grazing can be combated. The real problem arises in May and June when all grazing-grounds dry up. It has been suggested that the situation at that time might be eased by allowing canal water for fodder crops at that time at nominal rates, that being the time when it is least wanted for commercial crops. The introduction of ensilage might also do much to relieve the situation.

Cattle by-products. The hide trade.

162. The fodder question is greatly aggravated by the fact that there are large numbers of cattle which are merely fodder consumers and do not pay their way either as ploughers, milk producers, or breeders. And during a fodder shortage, unless man intervenes, that animal tends to survive which has merely to live, as against the one which has to live and do something else, produce milk or plough. So that unless the situation is controlled, there tends to be a survival of those which are least fit for the purposes of man. And not only do the unproductive survive, but the productive tend to survive when they no longer pay their way. From birth onwards an animal passes through an unproductive stage and its owner retains it for its potential value when it arrives at maturity. The cost of maintenance during this period has to be added to the cost of maintenance during its productive life in any calculation of the efficiency of the animal. Later in life it again gradually becomes unproductive, and, unless disposed of, the cost of maintenance must also be debited to the productive period. The Hariana tract is largely Hindu, but the zamindars are shrewd agriculturists, and rapidly dispose of inefficient stock to the Muhammadan *qasais* of Panipat, Sonepat or Rohtak "asking no questions for conscience sake." We thus have the combination of a flourishing hide trade with the best breed of cattle in the Punjab. As long as the unfit are eliminated, there is no secular objection to the slaughter-house. It is only when the best animals are so disposed of that the economist has any reason to complain.

The Punjab Veterinary College.

163. At a cost of 1½ lakhs the Punjab Veterinary College can educate 50 students a year. Owing to the fact that a large number of Veterinary Assistants are out of employment owing to demobilisation and retrenchment appointments are not available for such a large number of graduates. Economy could be effected if other provinces in India would send their students for training to the Punjab Veterinary College rather than equip Veterinary Colleges of their own. There is no objection to this on the score of differences in local conditions, as might be urged in the case of an Agricultural College, nor does the medium of instruction stand in the way, as the course is given in English. The course extends over four years and is more comprehensive than

the courses given at the other Veterinary Colleges in India and conforms more to modern requirements. It is therefore particularly suitable for candidates from the whole of India who aspire to higher appointments. It already supplies the requirements of northern India, and students have come this year from as far as Mysore. In view of these facts the suggested Veterinary Colleges for the United Provinces and Behar would be superfluous. In the absence of a special staff for the purpose there is little time for research though some interesting enquiries have been made on special points. About 33 per cent. of the dogs bitten by a mad dog develop rabies. Experiments in the college hospital shew that the proportion is reduced to 2·3 per cent. if anti-rabic treatment is undergone. Though this figure must be slightly modified owing to the fact that some of the dogs may not have been really bitten by mad dogs there is nevertheless no reason to doubt that the treatment is efficacious.

Work of the Camel Specialist, Sohawa.

164. Camels suffer extensively from *surra*, a disease which is caused by a *trypanosome*,—a minute parasite which lives in the camel's blood, and is carried from one camel to another mainly by blood-sucking gad-flies (*tabanidae*). Previously the disease was considered incurable, but the investigations of Captain Cross, the Camel Specialist, into the life history of the parasite, have thrown considerable light on likely methods of prevention and treatment of this disease. If certain species of blood-sucking flies were present in *surra*-infected zones, and were absent from *surra*-free zones, it would help to incriminate these species as transmitters of the infecting parasite. By collecting blood-sucking flies from every tahsil in the Province, and examining large numbers of camels in order to determine the incidence of *surra*, Captain Cross was able to indicate some new species of fly which transmit the disease. These flies lay their eggs on the leaves of aquatic plants, and on the leaves of trees and on rocks overhanging water. They are specially prevalent in a year of heavy rainfall. Thus swampy and riverain tracts must be regarded as dangerous while dry sandy areas are relatively immune from *surra*. Regarding the part played by ticks in the transmission of *surra* he has indicated a probable cyclical development of the *trypanosome* within the tick. He has also carried out certain investiga-

tions in connection with warble flies and has been able to identify the fly causing warbles in cattle and goats in the Punjab. His bulletin " The Bot flies of the Punjab " contains valuable advice to farmers anxious to deal with these pests. An infinity of work still remains to be done, but unfortunately Mr. Cross is retiring and it will be difficult to replace him.

The Fisheries Department and financial stringency.

165. It was inevitable that in a year of extreme financial stringency, such as 1922-23, a stock-taking of all spending departments should be made. Three times during the year did the fate of the Department of Fisheries hang in the balance—in the summer of 1922 before a Select Committee of the Legislative Council, in the following autumn and winter before the Retrenchment Committee, and in the spring of 1923 before the Budget Meeting of the Legislative Council. The Fisheries Department has indeed survived, but only on probation, and the test is that it should gradually reduce the excess of its expenditure over its revenue until it succeeds in becoming self-supporting, the process to be completed in a period of six years. It is still difficult to ascertain the exact financial position of the Department. But given sufficient staff to enforce the rules and to secure a proper conservation of fish it is arguable that bigger returns would probably be obtained by the Department from a licensing system than are now obtained by the auction of leases. The benefit of course to the food resources of the Province would be incalculable. A beginning has, however, been made with the policy of expansion. License fees in the plains generally have been raised from the inadequate figure of Rs. 3 to the more reasonable figure of Rs. 6, and the Fisheries rules have been extended to four districts, in which there were no leases. The Department though somewhat handicapped by the small travelling allowance grant, has made a fair start this year on the road to financial independence.

Difficulties experienced by the Fisheries Department.

166. Meanwhile despite rumours of impending dissolution the Department carried on faithfully its normal duties of conservation and culture of fish. The enforcement of the Fisheries Regulations was hindered by an orgy of poaching encouraged by the rumours aforesaid and by the restriction on touring which resulted from the 50 per cent. cut made by the Legislative Council in the Fisheries

budget estimate for the year. In the spring of 1923 a certain amount of lee-way was made up ; but the results are manifest in the drop in the number of licenses taken out and in the license fee income. The failure to introduce co-operative methods among the fishermen is ascribed to the uncertainty about the ownership of backwaters in which most of the fishing of the Province is done. The right of the fishermen to fish in these waters was challenged by the zamindars. The trouble promised to be serious, but immediate disputes were averted by tactful handling on the part of the local departmental officials. It may be hoped that some Credit and Supplies Societies will now be started and that the movement will spread. The well being of the fishermen is one of the most important objects of the Department, whose aim is to secure their willing assistance in the working of the system of fish conservation which is as much to the benefit of the fishermen themselves as to that of the community at large.

The Lahore Zoological Gardens.

167. The Lahore Zoological Gardens were previously only a semi-official institution administered by a Committee under the presidency of the Deputy Commissioner, Lahore, and supported partly by Government contributions and partly by subscriptions from local bodies and private individuals. Great efforts had been made to collect subscriptions and the Gardens had been considerably improved. But the accommodation for the animals was unsuitable and the position was unsatisfactory as the limits of public generosity in the Province appeared to have been reached. At this point Government stepped in and took over the concern in January 1922, and a grant of Rs. 22,000 gross was provided for the year 1922-23, the Lahore District and Municipal contribution of Rs. 5,000 being taken into account in the general revenue estimates. The crying need of the Gardens is the construction of better houses for the animals, but under the system of provincialisation of finances an appeal cannot be made to the public, since all income is credited to Government, while the latter is itself unable to provide funds. A proposal is therefore under consideration to reorganize the system of budgetting so as to enable the Committee of the Gardens to make use of whatever subscriptions and contributions they may be able to collect in addition to the Government grants. The ' Zoo ' like the Museum is a great resort of the rustic visitor to Lahore, and its popu-

larity continues to be unabated. The Duck pond with its loquacious tenants is one of its most popular features, and the difficult problem of its water-supply has at last been solved. Another long-felt want was supplied in the generous gift of an otter pond by Colonel Malik Sir Umar Hayat Khan. The Monkey House requires rebuilding and enlargement ; but it is hoped that under the new regime it will be possible before long to find money to remedy what is admittedly the weak point of the institution.

CHAPTER IX.

PRODUCTION AND DISTRIBUTION.

The Forest Department: curtailment of activities.

168. The Forest Department continues to experience the difficulty which would be felt by any business organization which is handicapped financially by having to meet capital expenditure out of revenue. It is also suffering from the aftermath of the War when departmental lumbering was directed solely to increasing the outturn to a maximum in order to meet military and general demands. High speed production coupled with a depleted executive staff inevitably entailed inadequate supervision, insufficient control and consequent excessive expenditure, combined with loss of stores and badly muddled accounts. The machine, in a word got out of control. Cultural operations also got into arrears. It has taken the administrative officers of the Department two years of solid work to get a semblance of discipline, efficiency and order back into lumbering activities, while it will take some years more to bring costs of production down to the level of the costs of living now prevailing. The short trade boom which followed the War was succeeded by the present period of depression which necessitated a curtailment of the lumbering programme as quickly and extensively as was consistent with safety in view of the heavy uncovered advances with Forest contractors and the large stocks of perishable sawn timber in the forests. In view of the steps which have been taken, the Department can now look forward to sure, though necessarily small, profits for the present and will be ready to expand its activities as soon as trade conditions improve.

Forest finance deficit due to trade depression.

169. The financial year has proved the leanest on record. The trading account shews a gross profit of Rs. 1·94 lakhs. Deducting from this Rs. 1·64 lakhs, interest at 6 per cent. on capital expenditure for the last ten years (Rs. 34·32 lakhs) and Rs. 2·03 lakhs depreciation of timber and plant, there remains a net loss of Rs. 1·73 lakhs. All businesses must have their ups and downs and at a time of falling prices many better organized businesses in India would be glad to show so small a loss. Last year under more favourable conditions the net profit was Rs 13·44

Forest Department

Income and Expenditure.

Quinquennial averages.

Lakhs of Rupees

50
45
40
35
30
25
20
15
10
5
0
5

1869-70 to 73-74
1874-75 to 78-79
1879-80 to 82-83
1884-85 to 88-89
1889-90 to 93-94
1894-95 to 98-99
1899 – 1900
1900 – 1901
1901 – 1902
1902 – 1903
1903 – 1904
1904 – 1905
1905 – 1906
1906 – 1907
1907 – 1908
1908 – 1909
1909 – 1910
1910 – 1911
1911 – 1912
1912 – 1913
1913 – 1914
1914 – 1915
1915 – 1916
1916 – 1917
1917 – 1918
1918 – 1919
1919 – 1920
1920 – 1921
1921 – 1922
1922 – 1923

Expenditure
Revenue
Capital Expenditure
0
5
10
Surplus or Deficit

lakhs and there is every reason to believe that the measures taken to avert the results of trade depression will avoid loss in the future. In estimating the total excess of expenditure over income the capital expenditure of Rs. 11·33 lakhs must be taken into account, making a total cash deficit of Rs. 14·09 lakhs. Since the Forest Department began its operations, the total revenue has exceeded Rs. 708 lakhs and the expenditure has only amounted to Rs. 542 lakhs, of which Rs. 51½ lakhs were spent on capital works not strictly debitable to the revenue account. The surplus has aggregated Rs. 166 lakhs.* In view of these facts a deficit in a year of trade depression need not be viewed too despondently.

The commercial side of the Forest Department

170. The immediate cause of this deficit was due to the fall in value of timber. The cost of production of hill sawn timber delivered in sales depôts, such as Doraha on the North-Western Railway, may be taken as Re. 0-12-0 per cubic foot. In 1920-21 the price per cubic foot of deodar timber was Rs. 3-0-6 and of fir and spruce Re. 1, while in 1922-23 the respective prices were only Re. 0-14-6 and Re. 0-5-5. In the latter year only deodar timber sold at a profit and all other kinds of coniferous timber had to be sold at a loss. Shisham and mulberry firewood from the irrigated plantations in the plains, and firewood generally, with resin from the submontane forest divisions, however, yielded a good profit and were the mainstay of the year's revenue returns. But the general fall in timber prices rendered it necessary for Government to determine the copartnery Talwara Saw-mill Scheme inaugurated in 1921-22, an adventurous endeavour to secure for Government some of the profits in a business timber enterprise. Unfortunately this attempt to modernise the lumbering, conversion, and marketing of coniferous timber in the Punjab will result in a dead loss of Rs. 2½ lakhs to 3 lakhs. But a quasi-commercial concern, such as the Forest Department, must have its occasional set-backs in commercial ventures, and the lengthy list of business failures in Calcutta and elsewhere recently only emphasises the wisdom of the course adopted by the Punjab Government in withdrawing from the Talwara Saw-mill Scheme.

*See graph.

The supplies of spruce, fir and blue pine timber available in the forests of the north-west Himalayan tract are practically illimitable. But until new methods of utilizing them are practised the market will be inadequate. Fresh possibilities include the utilization of treated spruce and fir timber for railway sleepers, and coniferous timber for match making, sulphite pulp, electric battery casings, ferro-concrete shuttering, and in the preparation of rosin oil from rosin and lamp black from resin waste. Mulberry timber also can be utilized for making textile implements, such as tubes and bobbins, and bent wood furniture.

Reclamation and afforestation in the Pabbi Hills.

171. An organised attempt is being made to prevent the continued erosion of the Pabbi Hills and to reclaim areas in those hills which have suffered severely from this cause. Efforts are mainly directed to prevent the rapid flow-off of rain water from these generally barren hills and to the regulation of the flow of water in the large nullahs by means of earthwork dams constructed with a view to the silting up of the stream beds behind them, so that eventually the stream beds are " stepped " and the rate of flow and consequently of " scour " reduced. Results so far are of considerable promise, the dams in the side and main ravines have, on the whole, held well and have caused the accumulation of considerable depths of silt behind them. The gradual " stepping " of these ravines with a view to lessening the velocity of the water therein is progressing satisfactorily. Grass is now growing in the reclaimed area and *jand* (*Prosopis spicigera*) and *kikar* (*Acacia arabica*) trees are now establishing themselves on the ridges on the lower side of the trenches. A few years' more work on these lines should convert the Pabbi area into a great fodder reserve which should be invaluable to the Province in seasons of drought. The experience gained this year will be of considerable value to the Land Revenue Department in the reclamation work which it is undertaking in the Hoshiarpur *chos** and the eroded hill sides in the Ambala and Gurgaon district (*para.* 47).

Grazing and fuel reserves provided by the Forest Department.

172. The Forest Department is not merely a money making concern: it also benefits the public directly by the provision of grazing and fuel. Grazing has been provided for 9

* Dry water courses.

million cattle, 1·9 million sheep and goats and ·2 million other animals. The Department has perhaps too generously allowed grazing by the browsing animals, such as camels, sheep and goats which lay bare the hillsides by devouring the tender leaves of the young shoots. Political pressure urges the extension of grazing areas in order to improve the milk supply. But as has been shewn elsewhere (*para.* 161) this object can be better attained by growing concentrated fodder crops, introducing modern methods of stall-feeding, breeding of good milk-producing strains and transport facilities to markets. The necessity of an adequate fuel-reserve cannot be over-emphasised. The widespread use of cow-dung as fuel results in the progressive impoverishment of the soil by the removal of valuable chemical constituents, and the situation is growing daily worse with the increase of the fuel consuming population and the decrease of fuel reserves. From this point of view it is a matter of regret that those who undertook the excellen project of planting a garden city outside Lahore should have combined with this project the destruction of the Kot Lakhpat plantation which was a valuable source of fuel-supply for the town of Lahore.

Relations with the public.

173. The relations of the department with the public are improving. Forest offences are proportionately high in the low hills of the Rawalpindi district where the population is denser than in the mountainous tract of the Himalayas or the irrigated plantations of the plains. With the association of local people in forest industries, such as lumbering and resin tapping, much has been done to avert antagonism. Most of the unpopularity of the Department is due to the lowest grade of officials, that of forest guards, who are under the temptations to dishonesty which must always be felt by underpaid Government officials. But no better method of forest protection has yet been devised and they must be looked on as a necessary evil. The members of the Legislative Council, however, have shewn themselves willing to appreciate the work of Government departments when explained in an intelligible form, and an organised propaganda amongst them and their constituents should do much to remove the misapprehensions which obtain as to the utility of the Forest Department to the public and to Government.

The Department of Industries: Dissemination of Industrial intelligence.

174. The financial position of the Punjab during the year 1922-23 precluded the initiation of new schemes of industrial development. Considerable progress was, however, made with schemes which had already been undertaken, and the activities of the Department of Industries as an agency for the encouragement of industries generally, and for the improvement of Industrial Education, were not curtailed, the expenditure on the Department rising from Rs. 5½ lakhs in 1921-22 to Rs. 8 lakhs in 1922-23. One of the chief of these functions is the collection and dissemination of commerical and industrial intelligence. A good library which is open to the public is being built up and considerable numbers of commercial and trade journals are subscribed for. These sources of information are supplemented by the general and special enquiries carried out by the Industrial Surveyors, and much material has been collected with a view to enabling the Department to reply to the numerous enquiries on such subjects as the sources of supply of raw materials or manufactured articles, outlets for the disposal of provincial products, the possibilities of starting various industries, and the agency for the supply of machinery.

Delays in electric supply.

175. Progress in the extension of public electric supply in the Punjab will inevitably be delayed till the scheme for obtaining hydro-electric power from the Himalayas is completed. A new license has, however, been granted for the supply of electric energy at Multan, and it is anticipated that supply will be available there before the summer of 1924. The Jullundur Electric Supply Company which was granted a license in October 1922 has at last made up its mind to start work on active construction. A public electric supply started by the Military Works Department in the Ambala Cantonment towards the close of 1922 has supplied a long felt want to one of the most important military stations of the Punjab. At Rawalpindi, however, for the supply of which a license was granted in 1920, practically nothing has been done. Matters came to a head during the year 1923, the existing license was cancelled, and an application for a license from another company was received. The negotiations with a prospective licensee for Lyallpur fell through, nor has anything further been heard of the Gujranwala

scheme which was under consideration in the year 1921. The Amritsar Electricity Department extended its system, but it is still unable to meet the requirements of the town. The difficulty of obtaining electric energy in large centres in the Punjab constitutes both an industrial handicap and a social inconvenience.

The Punjab Arts and Crafts Depôt.

176. The Punjab Arts and Crafts Depôt* serves a dual purpose: it provides the art-craftsmen of the Province with a market for their wares and in association with the Mayo School of Arts it uses its influence to improve design and workmanship. When the depôt started the stock was so small as to consist for all practical purposes merely of samples from which orders could be booked, and retail cash trade was almost impossible. Gradually, however, stocks have been accumulated and, though it has been found necessary to raise the prices charged, cash sales have increased very largely. The depôt has now exhibited at three British Industries Fairs, but the orders received in consequence have not justified the expenditure involved, and it is apparent that without a permanent agency in London the depôt will not be able to effect very much in the direction of finding an overseas market for the craft products of the Province. The success, however, which has been achieved in bringing a family of Lahore workers in block-printing on cotton and satin into direct contract with large English houses is an example of the way in which the depot can prove its worth: for it is due entirely to the training and experience received in the Mayo School of Arts and to the introductions effected through the agency of the depot that this family is able now to deal independently. Similar efforts are being made in connection with Multan cotton printing with most encouraging results. The depot has also been successful in improving the design and workmanship of Lahore brass and copper work, Hoshiarpur inlay work and the Ferozepore and Jullundur chased lacquer work. The latter was particularly admired at the last British Industries Fair and sales of this class of work at the depot itself have been considerable. From the financial point of view results have been less satisfactory. Hitherto the depôt has been financed by a somewhat cumbrous system of special advances. Sanction has now been obtained to the opening of a personal ledger ac-

*See 1921-22 Report, II, 57.

count in the name of the Controller, a system which will allow the Controller considerable freedom and should result in the attainment by the depot of a greater degree of commercial success than has been possible under the strait-laced financial system which prevailed in the past.

The Tanning Industry.

177. The large cattle population of the Punjab (*para.* 147) implies as large output of hides and skins. Local manufactures of skins and leather have steadily increased in recent years. Moreover, in spite of the disorganisation caused by the War, hides and skins still form one of the most important items of export, and the proportion of tanned hides exported is steadily increasing. Tanning is a primary industry, as it advances raw material produced in the country by a further stage.* The equipment of most of the tanneries, however, leaves much to be desired. In some cases, where up-to-date machinery has been installed, it has lain idle ever since for want of men trained to use it, and it is partly to supply this lack of trained men and partly to demonstrate the possibility of turning out a high grade leather hitherto undreamt of in the Punjab that Government has undertaken to construct and work a small model tannery at Shahdara, near Lahore. But whatever success may be achieved in introducing modern machinery and improved methods in the tanneries, a really good class of leather will never be turned out unless the raw material available to the tanners is improved, and special efforts are therefore being made to teach better methods of flaying. Improved methods of curing and packing have also been introduced, leading to elimination of the loading of skins with foreign matter and the avoidance of cracks and heavy creases. The better prices which have been secured as a result of these improved methods have favourably impressed butchers and tanners with the value of the advice furnished by the Department of Industries.

The Weaving Industry.

178. Next to agriculture the hand-loom weaving industry is still the most important in the Province both as regards the number of workers engaged and the value of its products. A population of no less than 3 lakhs still relies on weaving as its main occupation, though many of these assist

* Calvert. Wealth and Welfare of the Punjab. Chapter XII.

in agricultural operations at harvest time or when wages are high. More and more, however, hand-loom weaving is beginning to suffer competition of the mills. No improvement in methods of working can eventually enable it to compete successfully in the open market with mill products except in the case of artistic goods where the individual attention and taste of the hand worker should always enable him to produce a finer product than that to which the automatic products of the mills can hope to attain. The future of hand weaving lies with such artistic products and with goods made purely for home consumption. Steps are, however, being taken by the Department of Industries to keep the decaying industry alive as long as possible by the introduction of the fly-shuttle loom, and more readily marketable cloth patterns. With this object several Jacquard machines were set up at the Central Weaving Institute in Amritsar. By means of these machines the most intricate patterns can be woven ; the healds, or vertical threads through which the warp threads pass, being so arranged that each is independent of the others, so that any desired combination of warp threads can be raised or lowered at any time. But Jacquard machines are costly and beyond the resources of an ordinary weaver, though they are likely to be taken up by the owners of the many small factories which are now coming into existence.

Co-operative Weavers' Societies.

179. The Co-operative Department is devoting its attention to the financing of weavers' societies. Ordinarily the weaver is in the position of a slave to the *bannia* who advances him yarn and receives from him the finished product, only allowing him to retain the minimum wage which will suffice for his subsistence. In the case of Co-operative Weavers' Societies advances are obtained from the Central Weavers' Stores at Amritsar. Unfortunately in 1922-23 heavy losses were sustained owing to the depreciation in the value of stocks held. As prices fell the weaver found it difficult to sell his goods and offered them in large quantities to the societies as a security for a further advance of yarn. The losses which occurred were inevitable at a time of falling prices, though they were unnecessarily large owing to the fact that the weavers failed to take the businesslike view that it was necessary for them to sell their goods at a loss rather than store them in-

definitely in the hope of prices rising. But the fact that the societies managed to survive a year in which so many merchants were ruined, augurs well for the future. One of the societies confronted with a loss, is making a monthly levy of Re. 1 to Rs. 2 from each member to meet it. Twelve societies have adopted the rule of compulsory deposits. The fact that such a spirit is shewn by men who a short time ago constituted the most ignorant and thriftless element of the population is a sufficient testimony to the value of the work done by Co-operation.

Industrial schools maintained by local bodies.

180. It has long been recognised that the maintenance by Local Bodies of industrial schools which are partially financed by Government grants-in-aid is an uneconomic and inefficient means of advancing industrial education. Excluding the Industrial School at Delhi, there are eight industrial schools in the Punjab which are controlled by Local Bodies, and for which Government grants are paid annually. During the year 1922-23 it was definitely decided that the system of grants should be abandoned, and that these schools should, as far as possible, be taken over by Government. The majority of the Local Bodies concerned would probably have agreed to complete and immediate provincialization. By this their financial responsibility would have ceased, while at the same time their existing schools would have been maintained. It would, however, have been quite impossible to take over all the existing schools without providing for a considerable increase in the annual contribution of Government towards industrial education—a matter of some difficulty at the present time. It was at first suggested that all grants should be withdrawn, and that the amount provided annually for grants should in future be applied to the provincialization of a limited number of the more important schools. This suggestion was, from the point of view of efficiency, sound. It omitted, however, all consideration of the popular demand for industrial education, and of the claims of the Local Bodies from whose institutions the grants were to be withdrawn. For these reasons it seemed desirable that the process of provincialization should be gradual, and should not have the effect of diminishing the existing number of schools. A scheme has accordingly been drawn up under which Local Bodies will, for a period of five years, pay an annually dimi-

nishing contribution towards their existing schools. In return, Government will take over the schools as provincial institutions, and will at the end of five years assume full responsibility for their maintenance. How far this scheme will commend itself to Local Bodies remains to be seen.

Mining: Oilfields and Coal Mines.

181. The Punjab mining industry is relatively unimportant. During recent years it has, however, received a great forward impetus from two causes, the discovery of mineral oil in large quantities in the Attock district, and the rise in the price and freight cost of coal from Bengal combined with the difficulty of obtaining it. Oil springs have been known for many years to exist in the Rawalpindi and other districts in the Punjab, but the output was insignificant until the discovery of the Khaur field, which still remains the only one worked, though numerous companies are continuing their activities in sinking wells in the neighbourhood. Previous to 1922 the maximum annual output of the Province was attained in 1918 when the War rendered import from abroad costly and difficult. The output then reached $\frac{3}{4}$ million gallons, but it fell subsequently, and in 1921 was only 59,000 gallons. But the completion of the new road from Fatehjang to the oil field at Khaur and the laying of a pipe line from Khaur to Rawalpindi have enabled Attock oil to be put on the market at a reasonable price. At Rawalpindi the Attock Oil Company have set up a refinery equipped with most modern machinery which has enabled them to place manufactured oil on the market. Owing to this opening up of the oil district the output of oil rose to $7\frac{1}{2}$ million gallons in 1922. The revenue from mines increased from about Rs. 1 lakh in 1921-22 to Rs. $1\frac{1}{2}$ lakhs in 1922-23, a sufficient testimony to the way in which money invested in the development of communications is repaid by the increased wealth and consequent taxable capacity which ensues. The oil output of the Punjab nearly equals that of Assam though it is still less than a fortieth of that of Burma. But in view of its future possibilities the Punjab may now take rank as one of the sources of Empire oil supply. The coal output was only 67,000 tons, which is the same amount as last year. Compared with the total Indian output of over 18 million tons this amount is infinitesimal, but the possibilities of development seem greater when once adequate communications are provided.

Perennial and Seasonal Factories.

182. Factory inspections disclose a radical difference between the conditions of perennial factories, which work all the year round, and seasonal factories, which are only utilized for a short time during the year.* The former are invariably well lit with electric light, sanitary rules are observed, and drainage is adequate. They are white-washed and well ventilated. Hours of employment are well within the demands of the Factories Act. Adequate care is taken to guard dangerous machinery. In seasonal factories the conditions are very different. Most of these precautions are neglected. Many ginning factories of this class continuously violate all the sections of the Factories Act relating to hours of work. The ventilation of their ginning rooms and the keeping of them free from dust remain a serious problem. Cotton ginners can be picked out from amongst other workers by their unhealthy appearance; ten hours daily in the dust-laden atmosphere of a ginning room quickly affects both eyes and throats ; and it is not unusual to find cotton ginning workers almost speechless from dust at the end of the day. As 90 per cent. of these workers are women and children, of whom nearly 5,000 are in the Punjab alone, the problem should be regarded as a sufficiently serious one.

Joint Stock enterprise.

183. Joint Stock enterprise in the Punjab† is almost entirely confined to banking and trade activities. In the industrial sphere it is practically non-existent. The hesitation shown by those who own wealth to invest it in these bodies is not altogether without reason. The companies seem to regard the Companies Act more as a repressive measure instituted by Government than as a necessary safeguard to the interests of the shareholders. Generally speaking, there is considerable laxity in the observance of the Act. Some companies seem quite indifferent to the necessity for accuracy even in recording facts for their own information. In one case the Directors printed one prospectus for the Registrar and another for prospective buyers of shares. The auditor who is too efficient is apt to be offered a fee so much reduced that he is certain to refuse it ; whereupon the company becomes at liberty under the Act to appoint some one more easy going. Such an audit is moreover sometimes done almost entirely by unqualified clerks, and the real auditor does little more

*See 1921-22 Report, I, 591.
†See 1921-22 Report, I, 589.

than affix his signature and assume responsibility. The general policy of Government has been to say as little as possible by way of criticism on the general administration of companies under the Act in order to avoid anything that might be taken as discouragement of joint stock enterprise. Endeavour has been made to warn and teach and so to try ensure compliance without prosecuting the offenders. Possibly this leniency has facilitated the formation and continuance of fraudulent concerns, but the responsibility for these rests with the shareholders rather than with the Registrar. Though the public prefer to regard him as the custodian of their investments and the guardian of their interests, his duty is confined to ensuring them the information which they have a right to know.

Punjab Wages Survey, 1923.

184. In 1922 a Wages Survey was undertaken which gives some idea of the general tendencies of wages. The survey is made quinquennially. Such accounts of wages may serve one of two purposes. They may attempt to measure fluctuations in the prosperity of the working classes year by year, or, neglecting short period fluctuations, they may attempt to record the slow changes in the standard rates of wages. The former was the object aimed at by the old half-yearly wages return which was made from 1873 to 1908. But short period fluctuations of this type can also be traced in the area and crop returns, in the exports of agricultural staples, in the consumption of piece-goods, salt and other excisable articles, and above all in the price fluctuations of the staple articles of food. It was therefore considered that a record of fluctuations over a larger period would be more valuable, and for this reason the wage census was made quinquennial.

Methods taken to secure accuracy.

185. In order to attain increased accuracy the *kanungo*, a man in direct touch with rural conditions, was asked a number of simple questions which he could understand. His replies came straight to the Statistical Branch of the Director of Land Records' Office free from any intermediate doctoring. Investigation was confined to workers of maximum efficiency, *i.e.*, healthy men between the ages of 20 and 45. From these the wages of the sick and infirm, women, children and the aged could always be deduced approximately. The investigation related to urban

and rural areas and to unskilled and skilled labour. For rural areas four typical villages were selected in each *kanungo's* circle.

Urban industrial wages.

186. But the smallness of the industrial population even in the selected centres of Lahore, Amritsar and Multan is remarkable. The populations of such towns are mainly commercial and parasitic and the relative unimportance of industries must be always kept in mind in studying urban wage statistics. The survey does however illustrate the greatly increased cost of labour due to the rise in prices. The recent oscillations, however, in the prices of staple food-grains render it difficult to form an estimate as to whether real wages are tending to rise or fall. Wages tend to follow prices, but at a slower rate. Increased wages resulted from the high prices of food-grains in 1921, but reduced prices have not reduced wages in the same proportion and it may be asserted with some confidence that the urban labourer in December 1922 was better off than his predecessor in 1917. But clearly this gives no answer to the main question which the quinquennial survey set out to solve, *viz.*, what is the general trend of wages. Prices were rising in 1917 and real wages were therefore depressed ; they were falling in 1922 and real wages were therefore enhanced. The general trend of wages can only be ascertained by observations extending over a larger period, when prices have become established after the violent fluctuations caused by war conditions.

Comparison between rural and urban wages.

187. Rural wages in adjoining districts are (as might be expected) less than those of similar crafts in towns. But such figures conceal many important facts. The rural labourer or artizan gets many things free (in particular a house to live in) for which his urban brother has to pay. These differences more than cover the difference in wages. But the difference in outlook between the urban and rural labourer in the Punjab is so great that such comparisons are of doubtful value. The rural has less expert knowledge than the urban craftsman, but he is expected to be more of a handy man. He must be of a hardier type to stand the life ; but if he can do so he is probably far better off. Yet though poets and philosophers continue to descant on the advantages of a country life, erring human nature continues to prefer the dissipation of the town. In

RURAL UNSKILLED LABOUR.

(Frequency curves).

Wage rates are given in two anna groups, as shewn at the bottom of the page.

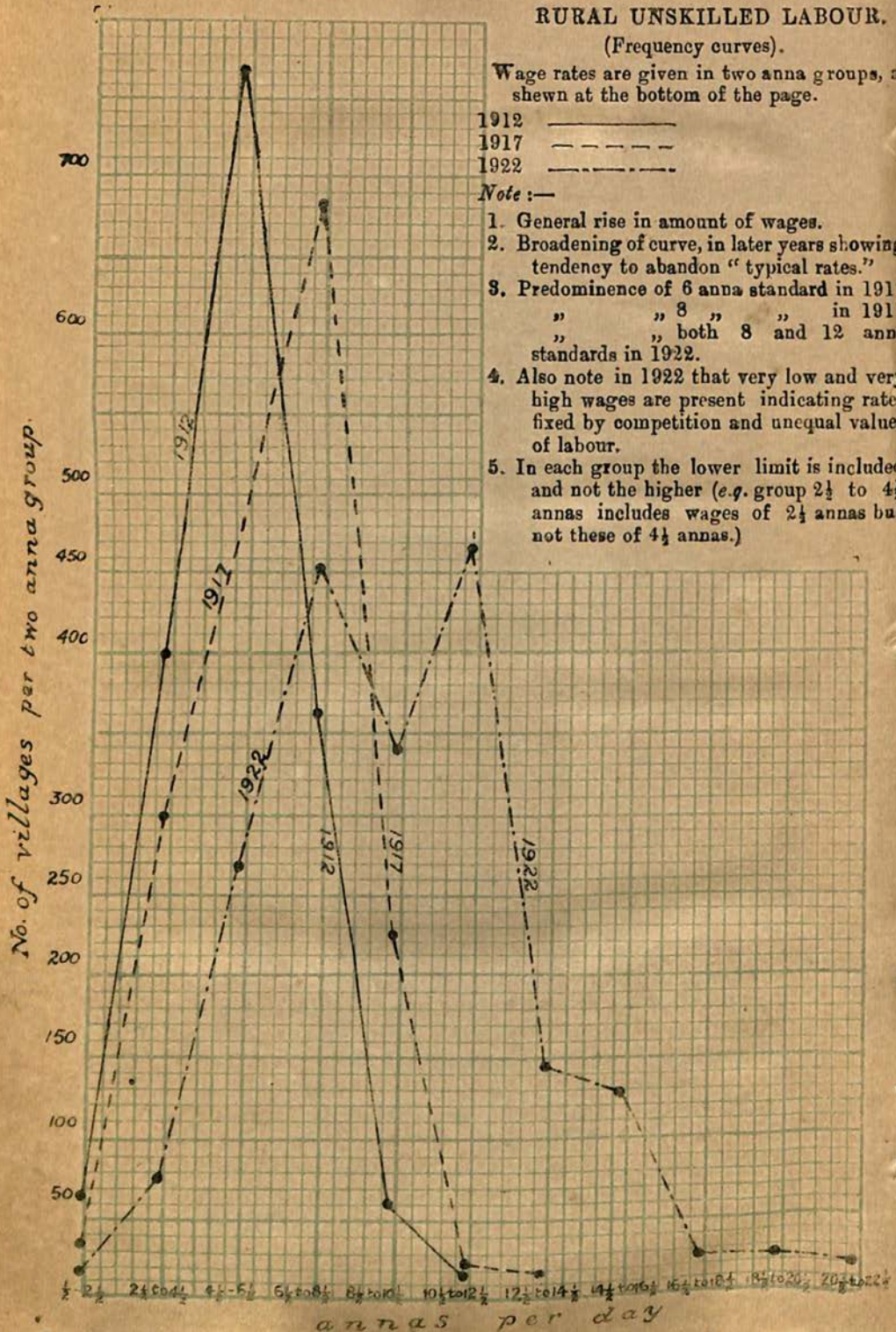
1912 ————————

1917 — — — — —

1922 —·——·——·

Note :—

1. General rise in amount of wages.
2. Broadening of curve, in later years showing tendency to abandon "typical rates."
3. Predominence of 6 anna standard in 1912
   " " 8 " " in 1917
   " " both 8 and 12 anna standards in 1922.
4. Also note in 1922 that very low and very high wages are present indicating rates fixed by competition and unequal values of labour.
5. In each group the lower limit is included and not the higher (*e.g.* group 2½ to 4½ annas includes wages of 2½ annas but not these of 4½ annas.)



making such comparisons we verge on the aesthetic and leave the strictly economic sphere which is the subject of a wages-survey.

Tendency for wages to have a competitive rather than a customary value.

188. The survey indicates a general rise in wages together with a tendency to abandon conformity to a typical wage.* Village rates for unskilled labour are still fixed, but they tend more and more to have a competitive rather than a customary value. Where labour is plentiful the rates are low, and *vice versa*. Moreover, in villages where the land-owning tribes is hard-working (*e.g.*, Arains, or Jats of the Eastern Punjab and the Malwa) their menials tend to work hard and remain occupied, and to command a high price for their labour ; while in villages of idle zamindars the menials also tend to be idle and to get less wages.

Relative unimportance in Punjab of urban and rural wage earners.

189. In comparing Punjab rural conditions with those of another province, such as the United Provinces, the large mass of cultivating proprietors should not be forgotten. They constitute the most characteristic feature of rural life in this Province, and the investigation of the conditions under which they work and live is one of far more importance for the rural economics of the Province than that of the wages of the classes dealt with by this survey. These classes have not in the Punjab the same importance as in a province like the United Provinces where the land-owners are mere rent-receivers. The value of the wages survey mainly lies in the light which it throws on the trend of wages under the influence of war conditions, a diminished labour supply due to losses from disease (especially the influenza epidemic), and the further opening up of the Canal Colonies. Prices have not only generally risen but have become more unstable. The quinquennial wage survey which before the war would have given a good record of long period fluctuations now deals with a period that is too short for the long period fluctuation caused by the war, while it fails to record the short period fluctuations due to the remarkable oscillations in prices which have characterised recent years. The only general results that can be deduced are that wages have risen, have become more competitive, and tend to differentiate more between qualities of labour and local demand.

* See graph.

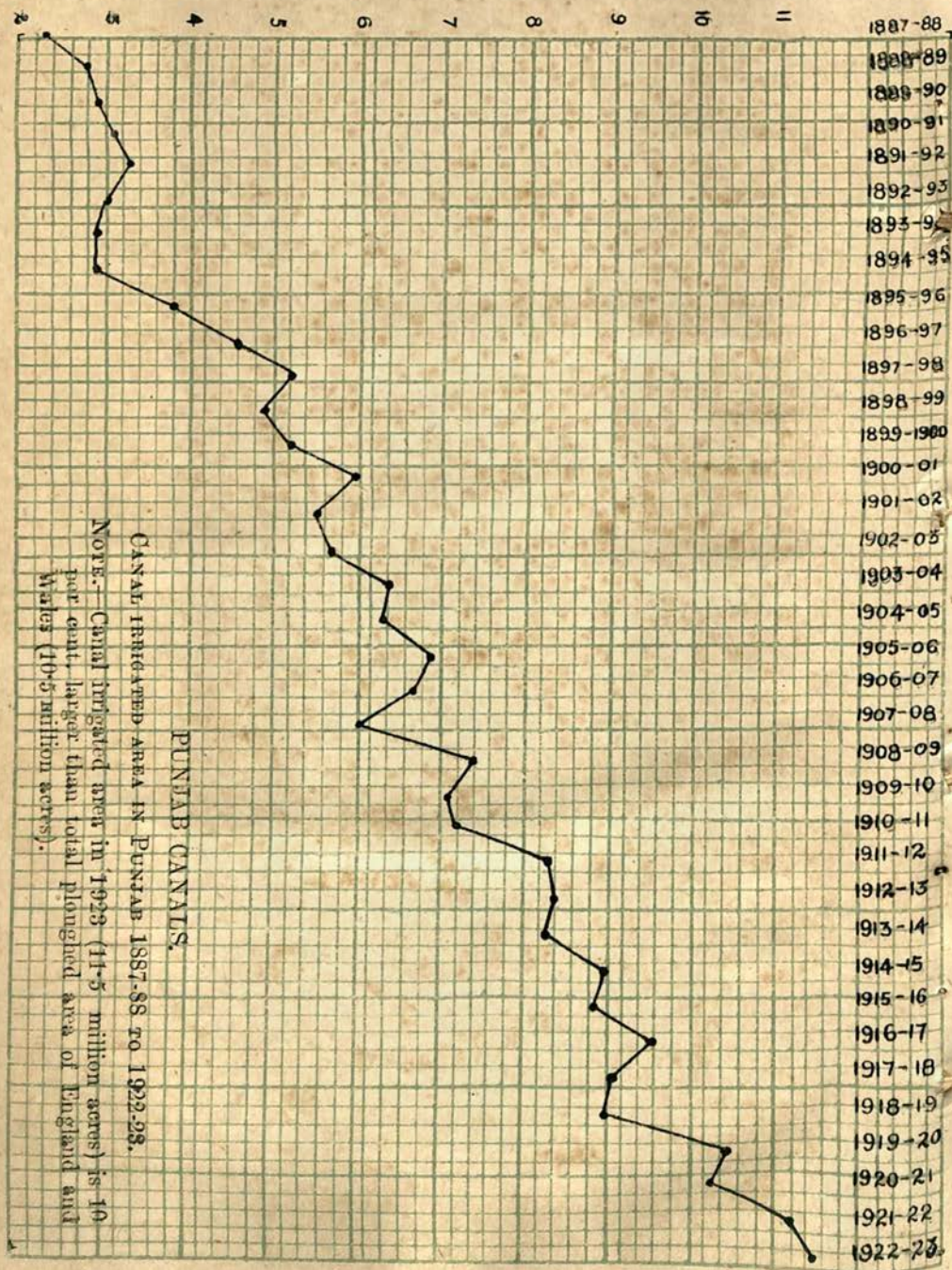
The Public Works Department (Buildings and Roads): Economical working.

190. The Buildings and Roads Branch of the Public Works Department supervises an annual expenditure of about Rs. 1 crore. Under the financial methods enjoined by Government this expenditure has to be fitted in to the financial year—a system which compels all work to be completed in the middle of the building season by April 1st. It is therefore not surprising that there have been difficulties with the Audit Department. These difficulties are, however, being gradually removed. Meanwhile, the Department is taking more practical steps towards economy. The Punjab Retrenchment Committee drew attention to the overlapping involved by the maintenance of a duplicate engineering staff in the same areas by the Public Works Department and District Boards. District Engineers are retained by District Boards to make roads and erect buildings, even when these are being financed by the Government grants to the Boards. Moreover, the District Boards maintain at considerable expense a staff to do work which can be better done by the Public Works Department staff in the same district. While expensive, the District Board staff is really inefficient, as it lacks the supervision from outside, which superior officers of the Public Works Department exercise over their staff.

Planning out communications for the Sutlej Valley Canal Colonies.

191. Inferior communications have proved a great handicap to the development of the Punjab Canal Colonies (*para.* 41). These colonies were planned purely from the irrigation point of view without any thought as to where towns were to be laid out or whither roads were to go. In consequence of the lessons learned by experience the irrigation scheme for the new Colony in the Nili Bar* is being worked out in conjunction with a project for the preliminary lay-out of towns and mandis and provision of communications, which is being prepared by the Buildings and Roads Branch. This method of anticipating difficulties will render unnecessary much of the expenditure on bridges and roads in Canal Colonies which has been caused by the lack of similar foresight in the past and at the same time will provide a very considerable enhancement in the auction sales of land and prove very remunerative to Government.

*Which will be irrigated under the Sutlej Valley Project. (See 1921-22 Report, I, 375 foll.)



PUNJAB CANALS.

CANAL IRRIGATED AREA IN PUNJAB 1887-88 TO 1922-23.

NOTE.—Canal irrigated area in 1923 (11·5 million acres) is 10 per cent. larger than total ploughed area of England and Wales (10·5 million acres).

Supply of cheap cement for reinforced concrete.

192. The use of reinforced concrete for building purposes is now world-wide. Hitherto the use of reinforced concrete in the Punjab has been restricted owing to the high cost of cement. This is now being removed by the enterprise of the Punjab Cement Company, which has agreed to supply cement from its works at Hasan Abdal in the Attock district at half the previous market price.

Road Administration.

193. The undesirable habit of encroachment on public thoroughfares which has given such trouble to Municipal Committees (*para.* 60) is being dealt with by the Public Works Department in the roads which it administers. The main difficulty has been that the Public Works Department map is not accepted in a Court of law as positive proof, but only as presumptive proof of the boundaries of the roads to which it relates. Judgment was generally given in accordance with the revenue records, which are not sufficiently accurate for the purpose. Arrangements have now been made with the Revenue Authorities in congested areas permitting the Public Works Department to define their roads by irremoveable boundary pillars which will be recorded in the revenue maps as "fixed points." The distances between these and other existing fixed points will be recorded in feet units not only on the Public Works Department map, which will be signed by the Revenue Authorities, but also in the form of inset maps on the revenue maps. Scattered plots of Government land, of considerable area in the aggregate, adjoin the highways of the Province. These plots were originally acquired and planted as groves for the purpose of affording shade to travellers in the heat of the day. The more rapid methods of travel which now prevail render these relics of a more sedentary age no longer necessary and it is proposed to sell those which are not useful for road purposes.

Increase of canal irrigated area.

194. The agricultural prosperity of the Punjab is mainly due to irrigation. The total canal irrigated area has been steadily rising. In 1893 it was only 3 million acres, it rose to 6 million acres in 1901 and remained fairly stationary till 1908, since when with the expansion of the Triple Canal system* it rapidly rose to 10·3 million acres in 1920-21.

*See 1921-22 Report, I, 365 foll.

This year it has reached a record of 11·5 million acres, over a million acres greater than the total arable area of England and Wales. In 1922-23 the total capital expenditure on irrigation was Rs. 185 lakhs, of which Rs. 8 lakhs were spent on the older canals, Rs. 15 lakhs on the Colony canals and Rs. 162 lakhs on the new Sutlej Valley Project.* Rs. 3 lakhs were realised from the sale of surplus stores rendered available by the completion of works on the Triple Canals and from colonists on account of water-courses which Government had built for them in order to secure rapid development of the Triple Canal system. Deducting this, the net capital expenditure amounted to Rs. 182 lakhs.

Irrigation Finance.

195. The gross revenue receipts amounted to Rs. 531 lakhs as against an average of Rs. 475 lakhs in the previous triennium. This includes Rs. 171 lakhs, indirect receipts. Indirect receipts represent an estimate of the increased value of the revenue due to irrigation and include receipts from land revenue, water advantage rates due to the canal, malikana and interest at Rs. $5\frac{1}{2}$ per cent. on *nazrana* and sale proceeds of Government waste lands in the Colonies.† Deducting working expenses amounting to Rs. 168 lakhs the net revenue earned by productive works amounted to Rs. 363 lakhs or a return of nearly 15·4 per cent. of the total outlay of nearly Rs. 23 crores as against $15\frac{1}{4}$ per cent. in 1921-22. The increase in revenue was due to the increase in the irrigated area during the rabi 1921-22. Interest charges amounted to Rs. 77 lakhs and after defraying these a net profit of Rs. 286 lakhs or 12·1 per cent. on the capital outlay remained. If direct receipts alone are considered the net profit after defraying interest charges comes to Rs. 115 lakhs.

Value of canal irrigated crops.

196. The estimated average value of the crops raised on all canals during the year works out at Rs. 49·3 crores‡ giving an average rate of Rs. 46 per acre assessed as against Rs. 63 in the previous year. The decrease is due to the fall in price of wheat and other commodities. The total value according to this estimate amounts to a little over twice the total capital outlay (Rs. 23 crores) on all the canal systems

* See 1921-22 Report, I, 375 foll.

† See 1921-22 Report, I, 126.

‡In column 5 of the statement in para. 120 the value of irrigated crop is given at 55·8 crores but this includes well-irrigated land, and (as is explained there) is probably an under estimate.

up to date including, of course, the Sutlej Valley Project now under construction. Out of Rs. 46 the Canal Department recovers only about Rs. 5·6 per acre as direct and indirect receipts and the rest goes to the *zamindar*.

The Sutlej Valley Project.

197. The total cost of the Sutlej Valley Project* is estimated at Rs. 14½ crores. Upon this a return of 12¾ per cent. is anticipated from water rates alone. But the scheme has another, and even more important, source of revenue. On the introduction of irrigation, no less than 3¾ million acres of desert waste, the property of the Punjab Government and Bahawalpur, and Bikaner States, at present valueless, will become available for colonization and sale. It is customary, in the *pro-formâ* accounts of irrigation projects, to credit a scheme with the interest on the sale-proceeds of Crown waste lands rendered culturable by its construction ; if this is included, the annual return of the project will amount to nearly 38 per cent. It bids fair, indeed, to rival the Lower Chenab Canal, the return from which during the past seven years has averaged over 41 per cent. The scheme was sanctioned at the end of 1921 by the Secretary of State. Six Superintending Engineer Circles, 20 Divisions and 60 Subdivisions have been constituted in 1922-23 to forward this project. Surveys are being made, sites located, channels aligned, land acquired and 35 million cubic feet of earthwork have already been excavated.

The Thal Canal Project.

198. The Thal Canal Project provides for the construction of a perennial canal offtaking from the Indus at Kalabagh to irrigate the entire Sind Sagar Doab down to the irrigation boundary of the Muzaffargarh Inundation Canals. It covers a gross area of five million acres or about one-twelfth of the gross area of British Territory in the Punjab. The project is estimated to cost Rs. 9·3 crores, to give an irrigated area amounting to nearly two million acres, and to yield a return of about 18 per cent. on the total capital outlay. In 1922-23, 2 million acres of country were surveyed and 3 million acres of soil survey was completed. The quality and classification of the soil of every 10 acre rectangular plot into which the whole area is being divided, was recorded in registers. All the survey work is expected to be finished by the spring of 1924 when the preparation of

* See 1921-22, Report, I, 375 foll.

a detailed project estimate will be taken in hand for submission to the Government of India.

The North-Western Railway.

199. The total capital expenditure during the year 1922-23 on the North-Western Railway was Rs. 211 lakhs as against Rs. 180 lakhs last year. Out of this amount no less than Rs. 112 lakhs was spent on rolling stock as against Rs. 54 lakhs in the previous year. Of the total expenditure Rs. 18 lakhs was spent on lines which have been made for purely military purposes. The total capital outlay on the Railway up to date is now Rs. 104 crores. As will be seen from the accompanying statement net earnings have increased considerably on last year though the percentage on capital outlay is still less than in 1920-21 :—

Revenue (Rs. in lakhs)

	1920-21	1921-22	1922-23
Gross earnings	13,05	13,02	14,47
Working expenses	10,03	12,61	12,38
Net earnings	3,02	41	2,15
Percentage on capital outlay	3·1	·4	2·1

The receipts from passenger traffic have remained nearly stationary. Increased rates have compelled a large number of persons who previously travelled by the higher classes to travel third class. In spite of this, however, as the annexed statement shows the increased receipts from the third class more than counter-balance the loss on the higher classes :—

Passenger traffic.

	1st Class.		2nd Class.		Inter Class.	
	No. (millions).	Amount (Rs. lakhs).	No. (millions).	Amount (Rs. lakhs).	No. (millions).	Amount (Rs. lakhs).
1920-21 ...	·14	20	·90	37	3·8	53
1921-22 ...	·15	21	·88	37	3·5	52
1922-23 ...	·12	20	·65	28	3·0	44

	Third Class.		Total.	
	No. (millions).	Amount (Rs. lakhs),	No. (millions).	Amount (Rs. lakhs).
1920-21 ...	64·0	4,77	68·9	5,92
1921-22 ...	69·3	4,78	73·8	5,88
1922-23 ...	70·9	5,16	74·8	6,08

200. The increase in gross earnings is almost entirely due to the receipts from goods traffic. This is seen from the following statement :—

Increased receipts from goods traffic.

Gross earnings (Rs. lakhs).

	1921-22.	1922-23.
Coaching	6,05	6,10
Goods	6,32	7,60
Other receipts	65	77
Total ...	13,02	14,47

The increase in goods traffic receipts is partially due to the larger exports of wheat owing to the removal of the embargo on the export of wheat. The figures for the total wheat traffic to Karachi and the receipts therefrom for the last six years are eloquent :—

Wheat traffic to Karachi.

Year.	Tons (millions.)	Receipts (Rs. lakhs).
1917-18	1·17	1,74
1918-19	·52	69
1919-20	·09	11
1920-21	·48	72
1921-22	·06	10
1922-23	·29	53

July and August are the best months for export, as then the Punjab wheat crop is reaped, and the American and Canadian crops have not yet come in the Liverpool market. As the embargo on export was only removed in September 1922, the receipts for the year 1922-23 were prevented from attaining the dimensions which they would have otherwise done. Increased rates have, however, also accounted for the increased receipts as is shown from the accompanying table :—

	1921-22.		1922-23.	
	Tons (million).	Rs. (lakhs).	Tons (million).	Rs. (lakhs).
Cotton, Raw ...	·13	34	·15	39
Wheat and wheat flour.	·66	61	·90	101
Other grains ...	1·13	84	·94	83
Iron and Steel products.	·09	17	·12	27
Rape and Mustard	·16	26	·19	29
Salt ...	·17	14	·19	13
Sugar, gur, etc. ...	·33	52	·30	43
All other articles ...	2·00	296	2·87	383
Total ...	5·67	584	5·66	723

Owing to the fall in the price of wheat many of those people who formerly consumed other grains were this year able to afford the luxury of wheat. Consequently the amount of other grains diminished though the increased rates prevented any appreciable diminution in receipts under that head.

APPENDIX

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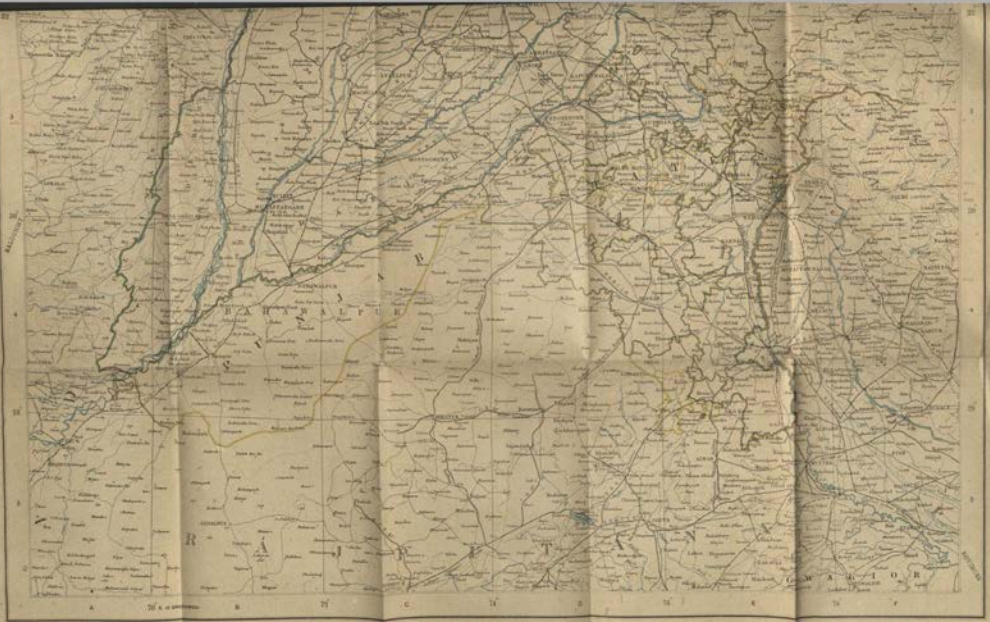
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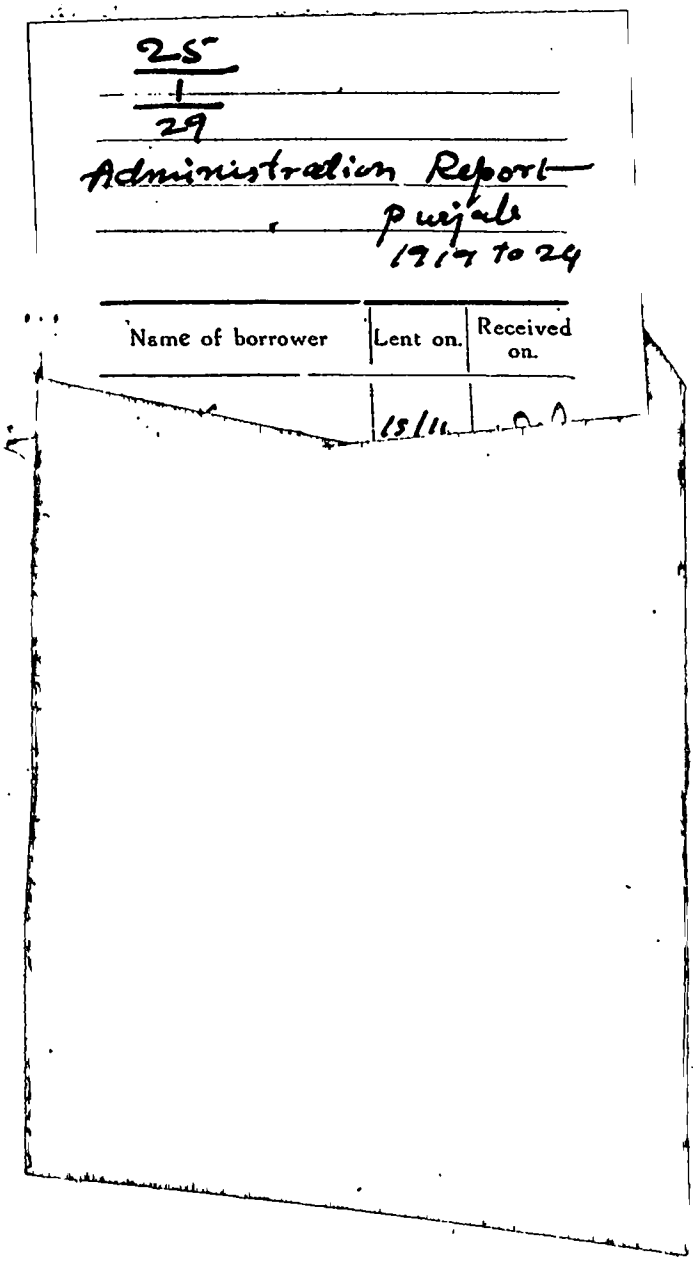

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